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CONTENTS.

Editorial Summary.
Letter from Baltimore.
" " Canada.
" " London
" " Paris.
" " Chicago.
" " Philadelphia.
" " Washington.
" " New York.
Societies.
Communications
Notes and Clippings
Trade Surveys.

ILLUSTRATIONS.

United States Post-Office and Court-House, Baltimore, Md.
(Gelatine Print issued only with Imperial Edition.)
Competitive Designs for the Cathedral of St John the Divine, New York, N. Y.
[Issued only with the Imperial Edition.]
Competitive Design for the Cathedral of St. John the Divine, New York, N. Y.

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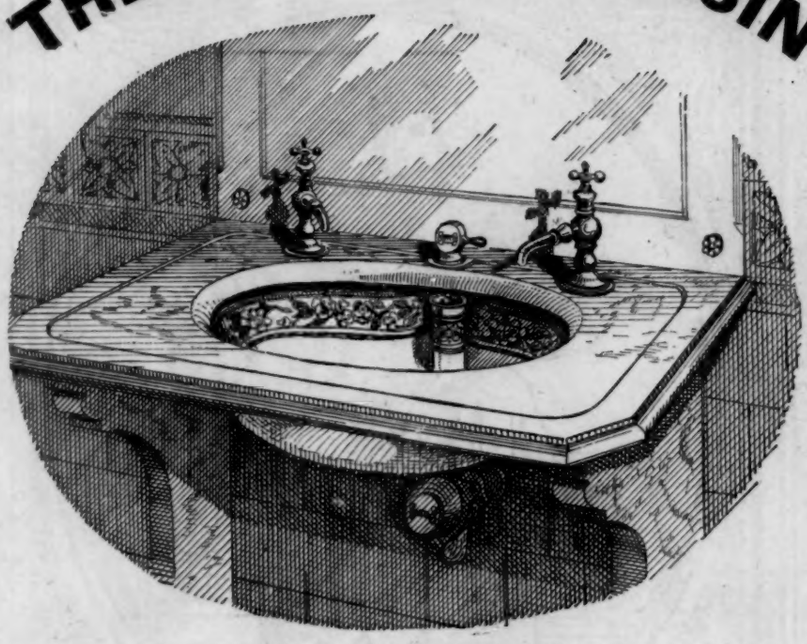

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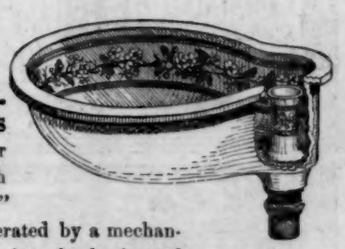

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CONTENTS

SUMMARY: —

The Convention of the American Institute of Architects and the Western Association of Architects in Cincinnati. — The International Congress of Architects and Engineers at Palermo in 1890. — The Engineering Association of the Southwest. — The Marble-working Industry in Paris. — The Small Shop Movement Abroad. — The Cass Statue in Boston. — What is an Architect Engaged to do? — Does Ownership of Drawings imply Right to Use them More than Once? 237

LETTER FROM BALTIMORE. 239

LETTER FROM CANADA. 240

LETTER FROM LONDON. 240

LETTER FROM PARIS. 241

ILLUSTRATIONS: —

United States Post-Office and Court-House, Baltimore, Md. — Competitive Design for the Cathedral of St. John the Divine, New York, N. Y. Mr. L. S. Buffington, Architect. — Competitive Design for the Cathedral of St. John the Divine, New York, N. Y. Messrs. Renwick, Aspinwall & Russell, Architects. — Competitive Design for the Cathedral of St. John the Divine, New York, N. Y. Messrs. Parfitt Bros., Architects. 242

LETTER FROM CHICAGO. 243

LETTER FROM PHILADELPHIA. 244

LETTER FROM WASHINGTON. 245

LETTER FROM NEW YORK. 246

SOCIETIES. 247

COMMUNICATIONS. —

Wall-charts for Architectural History. — Hunt's "Shadow of Death." 247

NOTES AND CLIPPINGS. 247

TRADE SURVEYS. 248

THE Consolidation Convention of the American Institute of Architects and the Western Association of Architects met at the Burnet House in Cincinnati on Wednesday, opening with an attendance of members and other persons interested of about one hundred. The evening before the opening of the Convention was devoted to a reception by the Cincinnati Architectural Club at Pike's Hall, where the National Exhibit of Architectural Drawings was on view. This was a very successful affair, about five hundred sketches of the best American type, which is not surpassed anywhere in the world, being shown to people who rarely have an opportunity for seeing so much good work together. Prizes have been offered for the best exhibits, so we will not try to forestall the opinion of the judges, but, in general, the Chicago offices were particularly distinguished for their water-color work, while Boston perhaps took the lead in line-work, with the Detroit club very little behind. Mr. Kirby's remarkable talent was shown by a number of his best sketches. Of photographs there were few, the prizes perhaps stimulating the zeal of the perspective draughtsmen to such a degree as to crowd out the sun's uncompromising work.

ANOTHER international Congress of Architects and Engineers is to be held in 1890, in Palermo, and members of the two professions in all nations are invited to take part. At the same time an exhibition of Italian industry is to be held in the city, so that foreign visitors will find something to interest them, and they are promised a welcome from their Sicilian brethren. The Congress will continue not less than eight, or more than twelve days, and will be varied by the examination of works of interest in and about Palermo, and trips to the interior of the island. Those who would like to be enrolled as participants should send twelve francs, — two dollars and forty cents, — to the Secretary of the Congress of Engineers and Architects, Porta Felice, Piazzetta S. Spirito, 2, Palermo, Italy, before December 31, 1889, and will receive tickets entitling them to admission, and to reduced fares on the railways and steamers, besides printed copies of the papers to be read, and the journal of proceedings. Persons who can submit papers upon works of general interest to the profession are earnestly requested to do so. The papers may be either in Italian or French, and should be accompanied, so far as possible, by plans and illustrative drawings. It is particularly desirable that professional societies should, as a polite recognition of their brethren abroad, take the small trouble necessary to subscribe to the Congress, but even individual architects and engineers may find much advantage in doing so. The latter know that modern Italian engineering work is equal to any, and architects hardly need to be told that Sicily, with the neighboring mainland of Italy, which can be reached by a ferry-boat, is, architecturally and archæologically, perhaps the most interesting country in the world. In and near Palermo itself are the Palatine Chapel, and the Cathedral of Monreale, reputed to be the two most beautiful pieces of interior decoration in existence; while a couple of hours' ride away is Agrigentum, and many other places with Greek remains are not far off. If the architect is something of an archæologist, he will find plenty of Moorish and Saracen work, mixed with the Greek and Roman, while in Palermo itself the Norman kings have left a good deal of curiously modified Gothic work; and if he is a student of history, he will be interested to visit villages, of which there are said to be many remaining, both in Sicily and Lower Italy, where the inhabitants, the undoubted descendants of the colonists who came from Peloponnesus perhaps three thousand years ago, still speak the Greek that their ancestors spoke a thousand years before the wolf nursed Romulus and Remus on the bank of the Tiber; while in other villages a dialect prevails among the dark-skinned inhabitants, which is as unintelligible to the people of the neighboring towns as the singular costumes and manners of those who speak it, but which is said to contain many Arabic words, and is probably to be traced directly to the Moorish occupation and colonization of twelve hundred years ago.

A SOCIETY has recently been organized, having its headquarters in Nashville, Tennessee, which is intended to unite the architects, engineers, and other persons interested in the sciences of construction in the Southwest, for mutual pleasure and instruction, under the name of the Engineering Association of the Southwest. The Society is to have permanent rooms in Nashville, with a reading-room and scientific library, but meetings are to be held at stated periods in other cities, where papers will be read and matters of professional importance discussed. In recognition of the difficulty of getting together a large number of members of such a society to vote on the questions which are likely to come before it, the constitution provides for obtaining the votes of members at a distance, by letter ballot, on matters of interest, and, as an additional inducement for engineers and architects at a distance to join the Association, the dues for persons not living in Nashville are lower than those for residents. The experiment of uniting engineers and architects in the same society is almost a new one here, although an association of the kind exists among the German members of the two professions in New York, but it is the universal rule in Germany and Switzerland, and there is no reason why it should not succeed here. In fact, for social purposes, architects and engineers get along much better together than members of either profession separately, and German experience shows that the association is for the benefit of both.

THE deputation from the London Workingmen's Association to the Paris Exhibition has made a report, from which the *Builder* makes an extract which, it rightly says, "is of interest, if correct." According to this report, which is made by one of the deputation, upon the marble-working industry, as carried on in Paris, a system is "very largely adopted" by which many of the workmen live from six to ten miles away from the city, and have the blocks which they are to cut or carve roughed out at the shop and sent to them, to be wrought at home and sent back. This system, the report says, makes the suburban workmen "better off than the constant hands in the towns"; as they have a little land, from which, "when work is slack," they can "produce what they

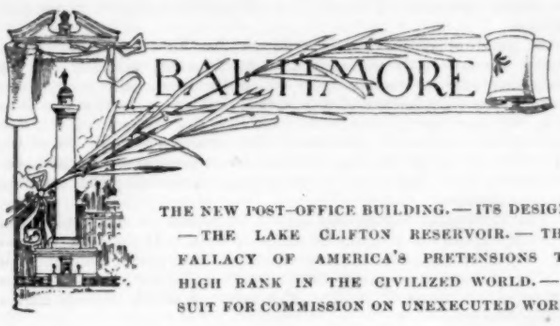
want to eat and to spare," while the masters get the work done "ten per cent cheaper." "This system," also, we are told by Mr. Mitchell, the author of the report, "prevents overcrowding in the large centres of industry," and "contributes largely to the happiness of the people, and to the absence of that squalid poverty so often witnessed in Great Britain."

THIS remarkable report presents a still greater interest in view of the tendency, which is now very marked in many sorts of manufacture, to substitute piece work at home for day labor in great establishments. So general is now the inclination of the industrial classes in Europe to this way of working that a large and increasing demand has arisen for motors of small power, which can be used in a house, or in a little shop in a yard or garden, to do work which a few years ago was always done in a huge factory, by power from a great central plant. Whether the new movement is due to the desire of the more intelligent working men and women to escape from the tyranny, both of overseers and walking delegates, and be enabled to work as many hours as they like, and utilize their time and opportunities to the best advantage, or to a moral revolution, by which men are willing to sacrifice something of their earnings for the sake of being able to work at home all day long, in the society of their wives and children, and surrounded by their flowers and fruit-trees, it would be hard to say. Probably both motives have something to do with the result, and social philosophers, as well as business men, would do well to study the movement attentively. The former will, so far as now appears, see a prospect of great moral and material advantage to the working people in promoting the tendency, or at least, in removing needless obstacles to it; while the latter, unless some unexpected change should occur, will find a rapidly increasing market for the small gas and hot-air engines, systems of distributing power by means of water, compressed-air, vacuum, fuel-gas and so on, and appliances for managing small manufacturing plants with facility and economy, which are already so popular; and, so far as our country is concerned, the development of the tendency would be greatly encouraged by the establishment of systems of suburban expresses, to deliver work and materials, which might be made profitable, at very moderate prices for the service.

THE statue of General Cass, on account of which some critical persons in Boston went through so much suffering, has been set up in the Public Garden in that city, with, as it appears, very much the result that we hoped for and predicted. So far as we can see, the critics were justified in considering the statue mean and ridiculous, but the advantage of having it set up in so conspicuous a place is that thousands of other people have examined it, and have formed a similar opinion about it, and many of the members of the military organization which paid for it are, it is said, so disgusted with it that a subscription paper is reported to be in circulation for raising funds to remove the present statue into some obscure place, and provide a better one. It is hardly necessary to point out that such a result would never have been arrived at if the complaints of the newspaper critics had been listened to, and the statue had been refused a place in the Public Garden. In that case the members of the regimental association would have continued to regard it as a beautiful work of art, unjustly shut out from public honors through the whim of a few pretended connoisseurs, and no one would have known anything more about what constitutes good sculpture than if the statue had never been made. Now, however, several thousand people have looked at it, have seen that it was unsatisfactory, and have formed some dim idea of the sort of statue which they would like better; and have received in consequence a lesson in art which will do them a great deal of good; while the more active members of the military organization, who have, from their own observation, been brought to the conclusion that their method of getting a statue of their hero has not led to a happy result, will gain a conception of the use of sculptors, as distinguished from gravestone manufacturers, which will be valuable to the sculptors, as well as to themselves, and which could not have been infused into them by an ocean of newspaper lecturing and remonstrance. General Grant, if he had never done or said anything else, would have immortalized himself by his observation that "the way to get a bad law changed was to enforce it"; and in a similar manner, the way to get bad pictures or sculpture rated at their true value is, not to talk about them, but to show them.

A QUESTION of interest to all architects is raised by a correspondent of *La Semaine des Constructeurs*, and answered, with his usual clearness and decision, by M. Collet-Corbinière. The correspondent says that he made, some time ago, plans for a villa for a certain client, who entirely approved them, as did also all the other persons who saw them. Recently, however, his client, for some reason about which he knows nothing, demanded that he should give up to him the plans, which he proposed to give to some one else to carry into execution. The architect refused, as a good many other architects that we know of have done under similar circumstances, and sent in a bill for work done, which his client refused to pay until the drawings were delivered up to him. The architect claims that he was not engaged to make plans, but to carry out the building, and wishes to know if his client has a right to dismiss him at this stage, and if he has not an artistic property in his designs, by virtue of which he can either refuse to give them up, to be carried out by other persons, or, if he surrenders them, for the sake of getting his money, can prevent them from being executed without his consent.

TO these questions M. Collet-Corbinière returns separate answers. As to whether the architect can claim that his contract was one for full services, and not for drawings only, he says that, if the architect can produce a writing, signed by his client, engaging him to plan and carry out the building in question, he can enforce this agreement, or recover damages for its non-fulfilment, but, by the French Code, the written engagement is necessary to bind his client in such matters, a verbal contract, even if attested by witnesses, being insufficient; and unless the contract for complete service is made in writing, his client may dismiss him at any point, paying him what his services to that point are worth. The question whether the architect can collect his pay, and at the same time keep his drawings, he decides at once in the negative, and he says further that the client cannot only demand and receive the drawings before he pays the architect for his services in preparing them, but that the transfer of the drawings to the client carries with it the right to have them executed, in such a way, and by such persons, as he may see fit. The law of artistic property, to which the architect appeals, will perhaps help him, M. Collet-Corbinière says, so far that only one building can be erected from his drawings without his leave. It is often claimed in court that an architect's drawings are like any other merchandise, and that the purchaser of a set has a right to use them to build from as many times as he likes, or to sell them to others, but the better opinion, he thinks, is that the transaction is not a sale, but an employment (*louage d' ouvrage*), by which the employer is not authorized to use the drawings made for him for any other building than the one for which they were originally intended; and it has been decided that where an owner built several houses from a single set of plans, the architect who made the plan could recover his fee for each of the houses built from them. We are inclined to think that in this country the law would be quite different in regard to establishing a contract for full services between an architect and his client. Not only have we no Code which removes a contract for such services from the general rule which sustains a verbal agreement, not excluded by the Statute of Frauds, which can be proved by witnesses, but we think it has been successfully maintained here that in the absence of proof to the contrary, the contract between an architect and his employer should be presumed to be one for full services, which, of course, could not be broken by either party without paying damages to the other. As to artistic property in his plans, the American law would be probably less favorable than the French to the architect. There is little doubt that American courts would decide that the architect must give up his drawings to his employer, for, although it has been held here that the drawings are instruments of service and the architect's property, the decisions are mostly the other way; but, having given them up, whether he could prevent his employer from using them for more than one building is quite uncertain. It is open to the architect to copyright his design, and, although this would hardly prevent his client from using them once, it would probably prevent other people from using them, and might be so construed that the client would be unable to use them a second time.



THE NEW POST-OFFICE BUILDING. — ITS DESIGN. — THE LAKE CLIFTON RESERVOIR. — THE FALLACY OF AMERICA'S PRETENSIONS TO HIGH RANK IN THE CIVILIZED WORLD. — A SUIT FOR COMMISSION ON UNEXECUTED WORK.

BALTIMORE'S new government building for the United States Post-office and Court-house, was formally dedicated on September 12th, although it is not yet quite ready for actual occupation. In June, 1879, Congress passed the act authorizing the selection of a site, and the one finally decided upon is bounded by Battle Monument Square, Lexington, Fayette and North Streets, the actual cost of which was about $550,000. The total additional cost of the building itself will be, when completed, about $2,000,000. It covers an area of 160 by 232 feet, being built around an interior court which measures about 50 by 100 feet, and is three stories in height, in addition to the basement and mansard roof. The outer walls are of Cape Ann granite, roughly dressed in the basement, with smooth finish for the other stories, and the style of architecture, we are told, is the "Italian Renaissance." A square tower, two hundred feet high, rises from the centre of the principal façade, and there are also eight other small square towers variously distributed around the four façades, apparently merely as ornamental features crowning a series of small pavilions, the salient points of the design, between which are colonnades of very freely treated Corinthian, as applied decoration to the walls containing the larger openings. The central tower is not without a certain degree of interest and elegance in its proportions and the distribution of its parts, and with but slight modification of details would be effective, suggesting decidedly French academic treatment. The *tout-ensemble* of the building is perhaps more suggestive of a very modern hôtel-de-ville than anything else, with a rather German inspiration as to details. These indeed are, in one sense, of the broadest character, regarded from the point-of-view of historical style, ranging from Roman classic, through various periods of so-called "Renaissance," down to the pure stone-mason's school, not omitting here and there touches of Gothic bits, all combined with a freedom that suggests no prejudice in the mind of the designer for any one of these styles. As regards an appropriate and convenient arrangement from a practical standpoint, we question the adequacy of the entrances — few in number and badly disposed — for a building whose uses must necessarily make it a continuous thoroughfare. One matter of exterior detail is unfortunate. The grade of the sidewalk falls at least ten feet in the length of the principal façade, and the area giving light to the basement along this front is coped with heavy granite curbing surmounted by a rather massive iron balustrade, following the sloping line of the grade, which cuts the strongly marked horizontal lines of the building most unhappily. The proper alternative, of course, would have been a series of horizontal "steppings."

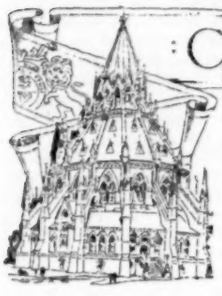
The ornamental details of the interior are massive and elaborate, a combination of marble in several colors, cast-iron, stucco and mahogany, and the criticism upon the exterior detail applies still more forcibly here. A great deal has appeared in print lately about the discovery of most defective constructive work throughout the building, involving heavy expense for repairs, with severe censure upon the late superintendent, naturally calling forth explanations and countercharges, but we are not sufficiently posted as to the facts to form any accurate judgment in the matter. One thing, however, seems to be the general opinion in regard to this building, that it is scarcely large enough for the work of the departments already about to be turned into it, and in a very few years it will be much too small for its purpose. A more carefully considered judgment, we think, would further criticise it as in many respects inappropriate in both plan and exterior for the post-office of a large city. The scheme of design that would naturally suggest itself for the façade of such a building — whose purpose is largely to accommodate a throng of people, engaged in a more or less uniform occupation, or continually moving through long public corridors — would seem to be a continuous arcade or colonnade, massive in treatment, but as open as possible for light and air, and with numerous entrances. Such a design might easily acquire all necessary character and interest, merely from its breadth, simplicity and fitness, and indeed we find this to be the case in buildings already constructed, on both large and small scale, where this scheme was apparently the leading motive in the conception. While this Post-office building has been the one prominent large structure of a public character completed during this year, and the only piece of government work done for Baltimore, the city itself has had under way one or two important enterprises of vital interest as bearing on the public welfare, and none more so than the building of the Lake Clifton Reservoir, completed within the last few months, and forming the last link in the chain of lakes which constitute what we believe is justly claimed to be an exceptionally fine city water-supply.

As far back as the summer of 1872 — a season of great drought — a serious apprehension arose as to the adequacy of the water-supply at that time, the public became alarmed, and immediate action was necessary. In rather more than a year an undertaking was completed, for the purpose of supplementing the reservoirs then existing, by a system of pumping, over a distance of more than three miles, and a height of about two hundred feet. This was known as the "Temporary Supply"; it cost over six hundred thousand dollars — of which about one-fourth has been saved in the use of old material — but was apparently an absolute necessity at the time and served its important purpose for six years, when the permanent supply first became available, having then been in course of construction for five years, since 1875. The portion of this great work, known as Lake Clifton, which has just been completed, was begun in 1879. It has a capacity of 265,000,000 gallons. The area of the water-surface is thirty, and that of the bottom of the lake twenty-two acres; there is an average depth of water of about thirty-two feet and the average elevation of the bottom of the lake is about one hundred and thirty-three feet above mean tide. The thickness of the embankments forming the lake vary from one hundred to five hundred feet, with an interior slope of one foot fall to every three horizontal feet. The total cost of this reservoir, including the gate-house and large mains, was, in round numbers, a half million dollars. There are now eight of these lakes included in the system of Baltimore's water-supply, the smallest having a capacity of 26,000,000 and the largest of 500,000,000 gallons, the total capacity of the eight being 2,274,000,000 gallons. This represents a storage capacity, if statistics are correct, capable of supplying the entire city of London for from two to three weeks, and for Baltimore, at the same rate per day, enough for four months, assuming that the smaller city is one-eighth the size of the world's great metropolis.

The unprecedented emigration to Europe during the past season from the more educated classes of the people has been shared in due proportion by Baltimore, a number of the scientific and literary men going for a fixed purpose of observation and study. At an informal re-union a few evenings ago at one of the clubs, where the subject came under discussion, there was a noticeable uniformity of opinion upon the fallacy of the prevailing idea, which our national ignorance and conceit seem to delight in expressing at every opportunity, that America, as a nation, has attained the highest degree of civilization, or, indeed, more strongly, that we, among all nations, have obtained the first place in the highest civilization. A host of facts, conspicuously evident to moderately sensitive perceptions, even when not amenable to the statistician's figures, contradicts this assumption at every turn, and leaves us but one prominent feature to claim as superlatively our own, our "immense possibilities." Many of the very innovations in science and domestic economy, which we are declaring from the house-tops that we are the originators of, we find others have been quietly enjoying for years, in one form or another, without taking much trouble to assert their claim of priority. And further, many of the details which European nations either demand or reject, as touching the refinements, or even the common decencies of life, we either do without or submit to, as the case may be, with the greatest complacency. We have not yet learned that striking results attained at certain points over a vast area, by force of science, wealth and energy, do not immediately accomplish the civilization and culture of a whole nation. Steam and electricity are to-day doing as much for Europe as they are for America, but while there they are working upon the solid foundations of the world's highest "culture" for the past two thousand years, with us there have only been as many hundreds to get a little below the surface of a very barren virgin soil. This to our great "Western" orthodoxy is doubtless rank heresy, but here in the East we are the more advanced and progressive, in that we already recognize and discuss the fact, and endeavor to act upon it.

A case of architect and client has recently been through the court in Baltimore, the testimony and decision of the jury giving some indication of the light in which professional transactions are regarded from the popular standpoint. One of the best-known architects of the city was called upon by some business men, also well-known in the community, in regard to alterations and improvements to a piece of business property. The architect's testimony was to the effect that, the owners having in no way settled in their minds what they wanted, or how much they would have to spend to get it, he was employed by them to make drawings, etc., to carry out certain plans that were discussed and settled upon, while in constant consultation with the owners, but they fixing no limit as to the cost, and the architect refusing to give any, until a regular bid should be received from a contractor, based on quarter-scale drawings and specifications. After these had been made, a radically different proposition was made by the owners for the use of the building, from that first proposed, necessitating new quarter-scale drawings, etc. Several bids were taken on these, but the owners did not proceed with the work. After some time had elapsed, the architect, finding the premises had been altered according to other designs, sent in his bill for the work he had done. At the rate of two-and-half per cent on the lowest bid received, with some slight additions for survey, measurements, etc. This the owners refused to pay, stating that they "always intended to give him something for his trouble." The

matter then went to court, the defence being that the architect had been limited as to what the building should cost, and the lowest bid being in excess of this, the architect had no right to charge for his labor, as the building had not been erected according to his designs. Two other well-known architects of the city gave testimony as to customary charges, and in regard to the schedule of the American Institute of Architects, an institution of which the lawyer for the defence asserted either genuine or assumed perfect ignorance, and designated it as some possible local "Union," unknown outside its own narrow circle. The case was given to the jury, who returned a verdict giving the architect an amount considerably less than one-half his bill, representing no special basis or rate or charges, whatever, beyond what, from their extended experience and well-informed minds in such matters, the work appeared to them to be worth.



THE CANADIAN PATENT LAWS. — A USEFUL WORD OF CAUTION TO AMERICAN PATENTEES. — THE MINING AND MINERAL STATISTICS FOR THE YEAR 1888. — THE FIRST ANNUAL MEETING OF THE ONTARIO ASSOCIATION OF ARCHITECTS.

THE Patent Law of Canada is a matter that concerns Americans to a no small degree, for statistics show that the majority of patents taken out in Canada are of American origin, or at any rate the inventions of persons living outside the Dominion of Canada, and it is a fact that the Canadian Patent Act seems to be generally misunderstood. Consequently considerable apprehension has been caused to would-be patentees in Canada, through decisions of the Commissioner of Patents, when such decisions have been unfavorable to the applicants, who have probably mistaken the spirit and policy of the Canadian Patent Acts. Our "National Policy," or the "N. P.," as it is familiarly called, is stringently and necessarily protective, to give Canadians every chance against outsiders, for the purpose of developing in Canada all manner of industries. There seems to be but one construction to be put upon the Patent Act, and that is, that the patent will only be upheld if, within a period of two years from its date, the patentee shall manufacture *in Canada* the patented article, unless he can satisfy the Commissioner of Patents, that he has been, from circumstances beyond his control, prevented from complying with this condition, and this fact must be put before the Commissioner not less than three months before the two years period would have run out.

If no demand, however, exists for the patented article, the patentee must make arrangements to meet a demand the instant it arises, and must be prepared to manufacture the article in Canada, if the demand for it arises at any time after the two years has run out. So that any one in Canada has a right to have an article patented in Canada, made for him within the bounds of the Dominion, if he requires it at any time, two years after it has been patented in Canada, or rather twenty-one months after, for the application for extension of time for the benefit of the patentee, must be made three months before the two years are over. If a demand is made for a patented article twenty-one months after the date of its patent, and the patentee being in the United States and not being able to manufacture the article in Canada, on demand, that patent lapses and is void; and not only must it be manufactured in Canada, but it must be sold at a reasonable price. A patentee, to save himself against the result of a sudden demand which he is not prepared to meet, according to the Canadian Patent Law, might succeed in getting the article made to meet the demand at great expense to himself, but he cannot put a price upon the article that would cover that expense, he must charge only a fair and reasonable price for it, and in such a case the expense he is put to only serves to save the rights of his patent. Many patentees have proceeded to put in the market their article, altogether overlooking these restrictions. Patent rights have been farmed out under stipulations that only a limited number should be sold within a certain district, or restricting the sale to some specified agent under onerous conditions. This, also, is illegal, for, as I have stated, any person in the Dominion may have the article upon demand. This does away entirely with restricted patent rights, or the possibility of demanding high prices under the assumption of a hard and fast monopoly; no restrictions can, therefore, be imposed. The aim and object of the Patent Laws is to protect and encourage Canadian industry, and the only absolute right conferred by a patent is the right to manufacture without interference. One result of this is, that there are a great many cases before the patent tribunal of Ottawa, in which the patentee is likely to suffer, and there can be no doubt that there are a great many articles in the market which are, although patented in Canada, altogether unprotected through a misunderstanding of these conditions.

A spirit of enterprise is ever on the increase among Canadians who are fully determined to manufacture all they can for themselves, and protective rights will be granted to all who desire to develop the manufacture of any article in Canada, so that it will be wise for American patentees to look into the matter and see that their articles are really protected. The advertisement sheets of the *American Architect*, teeming with articles of general use in the building trades, show that a correct knowledge on this subject is essential to the inventors.

The Geological Survey has issued its report on the mining and mineral statistics of Canada for the year 1888. The summary shows the value of the mineral productions to be sixteen and one-half million dollars, as against fifteen million dollars of 1887. The following are items of produce, the value of which exceeds half a million dollars:

Coal	$5,259,830
Iron	1,592,931
Gold	1,098,610
Bricks	1,036,746
Petroleum	755,571
Copper	667,543
Building stone	641,712

The exports of minerals for the year are valued at $4,738,810, and the imports at $28,230,788, of which $12,000,000 worth are iron and steel, and nearly $9,000,000 of coal.

From general, let us turn to domestic subjects.

According to the by-laws of the youthful society — the Ontario Association of Architects — just a year old, the first annual meeting will be held on the third Wednesday of this month, in Toronto, and the Directorate are taking steps to make its success an undoubted fact. The Association numbers some ninety members, a large proportion of whom are thoroughly in earnest, and although there are here, as in all associations, careless members, the results to be achieved by this meeting will be of the greatest importance to the profession of the province. The principal matter will be the proposed charter, the discussion of which, it is expected, will take up the greater part of the two days session. In response to the invitation of the Secretary, various papers have been promised by members on subjects of general interest to architects, but it is doubtful whether there will be time for them to be read.

An exhibition of Architectural Drawings is being arranged, which will be free to the public, and the session will wind up with a banquet given to the visiting members by the Toronto members, who naturally form a considerable majority.

The *Canadian Architect and Builder* for October, publishes an illustrated letter from the City Engineer of Quebec on the disastrous land-slide which occurred there two months ago, and which has been fully detailed in the daily press. A section of the cliff shows that there is reason for believing we have not had the last slip. The rock is fissured to a serious extent, and there is a great deal of loose soil with next to nothing to hold it up, which, if it does not come down with a run before the frosts set in, will do so directly there is a thaw. Up to this time nothing has been done towards bolstering up the cliff, but for the very good reason that no amount of bolstering would be of any use so long as the loose material remains where it is, this must either be allowed to tumble down of itself, or it must be brought down by the use of dynamite. Anyhow, precautions must be immediately taken to prevent accidents.

ENGLISH ARCHITECTURAL EDUCATION. — THE ADDRESS OF THE PRESIDENT OF THE ARCHITECTURAL ASSOCIATION. — TWO NEW CHURCHES. — SHEFFIELD TOWN-HALL. — AN EIFFEL TOWER FOR ENGLAND.

IN my last letter I gave you a detailed account of the new triple examination which has been established by the Royal Institute of British Architects, which must be passed by students before they can be elected members of that body. You, perhaps, remember how important I considered this step, as its inevitable result must be to cause a revolution in architectural education. Since I wrote you the Presidential Address of the Architectural Association has been delivered, and the line of argument followed by Mr. Leonard Stokes, the president, quite bears out my opinion. That you may fully understand the importance of this address, let me preface my summary of it by a word or two on the present condition of educational affairs here. Within the last two or three years there has grown up in the Association a small body of men who are following a somewhat similar course to that adopted by the Oriel Tractarians of

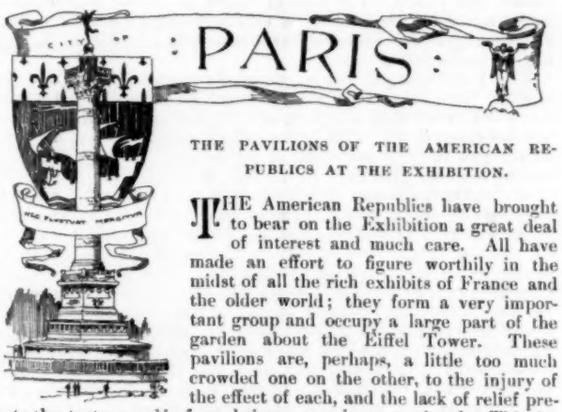
Anglican ecclesiastical history. These men are determined to place English architectural education once for all on a satisfactory footing. They seem to be animated by the terse motto of Thomas Wentworth, Earl of Strafford, and mean, I believe, eventually to go so far as to try and get rid of pupilage — that incubus of education — excellent enough in its ideal, but, in practice, often intolerable; to rear in its place a great semi-collegiate institution, wherein, they think, lies the solution of the ever-present problem of education. Of course, this intention is as yet barely expressed, much less openly advocated, for to do so in the early days of such a movement would be to raise up a storm of interested opposition that would bid fair to crush it before it had attained much strength; but, at the same time, I believe such an intention exists, and, therefore, I have told you this in order that you may be enabled to follow with more interest than, perhaps, you otherwise would have done, the campaign of which the Architectural Association president's address was the opening *reconnoissance*. Mr. Stokes began, as others have done, by stating the manifold requirements that are expected of the modern architect. I need not repeat them, for we all know what they are: know that the successful architect needs to be at once an artist, a scientist, a business man, a leader and director, often, of small armies of men, and acquainted with the habits and desires of others to an extent that, perhaps, no other profession demands. Speaking next of the defects of pupilage, and of the assistance the Association voluntarily gives to those who cannot get it when they have paid for it, he went on to refer to the effect the Institute examination was having on those sources whence architectural education was derived, and pointed to the fact that students often forsook the Association when preparing for this examination, going, as I told you last month, "to a private institution to obtain the instruction they require." Then he asked why this was, and laid it down to the door of the voluntary system, which he attacked very strongly, and gave some excellent reasons for its discontinuance and the appointment in its stead of a regular salaried staff of professors and lecturers. Of course, this meant money, and therefore Mr. Stokes turned at once to this point, and suggested various ways by which funds could be raised, among which were a closer connection with the Institute, who might then be reasonably expected to endow professional chairs, an appeal to the city companies, "who exist ostensibly for the benefit of certain trades," and, as the gods help those who help themselves, an enlargement of the present Association subscription, concluding with an appeal for help to every member of the profession to unite and forward the great cause of architectural education. The address was characterized by a good deal of earnestness, and has made a great impression, so far as I can gather, most of the professional papers and the *Institute Journal* commenting on it. Probably next month I shall be able to give you the opinion of the Institute president on the matter, as his address is also shortly to be delivered.

Two very important churches have recently been opened in this country, both costing between £40,000 and £50,000, and each to a great extent the work of a private benefactor. One is at Portsea, and is in the later Perpendicular style from the designs of Sir Arthur Blomfield, the diocesan architect, and son of the late Bishop of London. The church is 73 feet x 200 feet, and has a fine commanding tower. The other church has been erected by the Duke of Newcastle at Clumber. This building is not so large as the Portsea example. Its length is not more than 130 feet, but it is very rich in treatment, and exemplifies so far as it can the full Anglican ritual to which the Duke is so attached. It is remarkable what progress this movement is making in the Church, and although it is hardly architecture in its strict sense, yet the influence which it is having on ecclesiastical art and architecture deserves a little notice even in a professional letter. I think the best illustration I can give you is an extract or two from the report of the dedication of this church:

"Of course, the central point of interest was the altar, which, with its silver crucifix, six altar-lights, two branch candlesticks, many vases of choice flowers and white frontal, was thrown into strong relief by its rich green dossal hanging and canopy. The rood over the delicately-carved chancel-screen was also a prominent object, and the lofty painted roof, the beautiful stained-glass of the traceried windows and the general proportions all attracted notice. . . . Presently the strains of the hymn, 'Light's Abode, Celestial Salem,' were heard as the long procession of choir and clergy moved from the hall to the church. First came acolytes in cottas and red cassocks, one carrying the cross, another burning incense, while others bore tapers. At due intervals two richly-embroidered banners were borne aloft. There were many clergy in the procession, most of whom wore birettas, many of them evidently for the first time. At the rear walked the Bishops of Lincoln and Southwell, both of whom were vested in handsomely-embroidered copes, and before the latter, as the bishop of the diocese, a pastoral staff was borne by his chaplain. . . . Then followed High Celebration, which was beautifully rendered. As the choir sang 'Christ is made the Sure Foundation' the altar-candles were lighted, and the celebrant, deacon and sub-deacon entered the chancel and approached the altar. The white vestments worn by them, chasuble, dalmatic and tunicle, with their stoles and maniples, were the work of Irish girls. The embroidery is worked in delicate shades of silk upon cloth of silver and mounted on ivory brocade. The colors are blended with exquisite taste, and round the medallions which form part of the design are bands of solid gold."

Another important building which is going to be erected is a Town-hall for the Borough of Sheffield. This is chiefly notable from the fact of the satisfactory nature of the competition. Architects, at first, have to send in simple sketch-plans to one-sixteenth scale, with only outline sections and one elevation. These are to be sent in without motto or distinguishing mark of any kind, even without colored borders to the strainers. From these sketch-designs six architects are to be selected for a final competition, each of whom is to receive £100. The decision is placed in the hands of Mr. Waterhouse, R. A., and all questions asked by competitors were printed on a schedule, and with answers, sent to *every* applicant. It is very pleasant to at last find a competition that is, or seems to be, above suspicion.

There has for some time been a rumor that the absurd freak of M. Eiffel is going to be repeated in England, and to-day the gossip is confirmed by an advertisement for "designs and estimates for a tower of not less than 1,200 feet in height." So I suppose nations will go on competing as to who shall build the highest tower until the limits of the power of iron is reached and a catastrophe occurs. Truly, we nineteenth-century builders are wise in our generation.



THE PAVILIONS OF THE AMERICAN REPUBLICS AT THE EXHIBITION.

THE American Republics have brought to bear on the Exhibition a great deal of interest and much care. All have made an effort to figure worthily in the midst of all the rich exhibits of France and the older world; they form a very important group and occupy a large part of the garden about the Eiffel Tower. These pavilions are, perhaps, a little too much crowded one on the other, to the injury of the effect of each, and the lack of relief prevents the *tout ensemble* from being properly appreciated. This inconvenience is especially noticeable in the case of Brazil, whose little building, strangled between the Eiffel Tower and the palace of the Argentine Republic, loses much of its *silhouette*, which is really cleverly studied. The greater number of these countries have laid special stress upon raw products and industrial products, which we will not speak of, their interest being entirely commercial. We will only occupy ourselves with the architectural aspects of their productions. The Republics of Hayti, Guatemala and Paraguay are the most modestly represented. Their pavilions, unfortunately, are very commonplace, quite without character, as the limited amounts of the grants made by the different countries made obligatory, but it is allowable to feel a regret, when we see, for instance, that the architect of the Dominican Republic, M. Courtois-Suffit, restrained, doubtless, by the matter of dollars-and-cents, has not been able to give free rein to his talent and fancy. The rather mean buildings of these Republics form a border along the Avenue Suffren. The buildings are of wood, in form of châlets, and have little interest in themselves.

The pavilion of Uruguay is of much more importance, but, from an artistic point-of-view, it is not worth much more. It consists of a great hall, well-lighted and surrounded by a broad internal gallery, which forms the first-story. The entire construction is of iron, with revetment of terra-cotta, and is crowned with five domes, the middle one of which is quite large, but its general air is dry, cold and characterless.

Quite another affair is the pavilion of the Republic of San Salvador, which consists of a ground-floor and first-story, which is reached by a staircase opening from the vestibule which gives access to the bureau of the Commissioner-General. Behind this vestibule an exhibition-hall occupies the whole width of the pavilion. At the first floor the staircase opens on an atrium lighted by three pointed-arched bays ornamented with colonnades. At the back of this space is found another exhibition-hall corresponding with that on the ground-floor. The atrium is crowned by a quadrangular dome which projects above the roof, and is covered with enamelled tiles colored with the national colors, that is to say, horizonal bands of blue-and-white; but the great claim of originality in this pavilion consists in an exterior ceramic decoration formed of squares of faience disposed in pilasters or frieze, and very curiously worked out by the architect, M. Jacques Lequeux, after documents borrowed from the history of Mexico. The dominant colors are blue, yellow and dark red. In the principal façade the frieze and pilasters are composed of the symbols of the Mexican year, month and day. These decorations faithfully reproduce forms of flowers, and strange and bizarre animals, with most curious effect. These panels are continued around the four sides of the pavilion. On the rear façade is found, at the height of the first floor, a frieze containing the representation of the ancient Mexican kings, from the founder of the dynasty downwards. The countenance is the same in each case,

and the individuality is only indicated by a sign placed in the left corner. Another sign placed in front of the figure indicates speech, kings only having the right of speech in the council. Finally, on the lower story of the same façade, the pilasters borrow their decoration from the names of the ancient cities of Mexico. Two panels of faience work, representing American landscape, still further enliven this rear façade, and two other panels, the subjects of which are reproduced from ancient Mexican sculptures, decorate the side-fronts treated in the same spirit.

These façades are pierced with bays filled for their full height with grilles curved outward in such a way as to allow those inside to lean out and have a view up or down the street. These windows have a very pretty effect. This pavilion, very brilliant of aspect, which cost 50,000 francs, is an honor to the architect, M. Jacques Lequeux, and also to M. Pector, consul plenipotentiary at Paris, who, appointed commissary general, has directed all the preparations and installation of the exhibit of San Salvador.

The Republic of Guatemala shelters its exhibits under a little structure of wood of no great importance, but very carefully studied by M. Sauvestre, whose talent is always original. The decoration is entirely dependent on the effects of incrusted wood, which forms friezes and panels. The general outline is full of movement and interest. Inside, we perceive a very interesting model, in relief, of the Nicaraguan Inter-oceanic Canal, undertaken by Mr. A. G. Menocal, engineer-in-chief.

The Venezuela pavilion is one of the most successful and most elegant. It is in the style of the Spanish Renaissance, and is excessively decorated with sculpture, which gives interest to the façade without crushing it. This façade, which only reaches to the height of the first story, is composed of an entrance doorway flanked by two bays, which give light to the hall of exhibition. The head of the full-centred doorway is filled-in with arabesque work supported on carytides set in profile, surmounted by the arms of Venezuela, about which are twined *rinceaux* and volutes supported in their turn by pilasters in the form of *gaines*. Above this doorway the wall interrupts the balustrade of the flat roof. This piece of wall, well decorated with garlands and vases, has only its own thickness, and has no real structural purpose, as may be frequently seen in Spanish work. The mullioned windows forming the galleries are also crowned with arabesque work, which comes down upon *culs-de-lampe;* and in the first story of the tower, situated on the left façade, two windows with projecting balconies are treated in the same manner. This tower finishes in a very aspiring, pear-shaped dome. Inside, connected with the principal gallery of the exhibition, is found a *patio*. Two small halls and a saloon complete the arrangement. M. Paulin, the architect of this elegant pavilion, has the more right to praise, since, in order to achieve a satisfactory result, he had to struggle against an insufficient allowance, which might have rendered impossible this richness of decoration in a building which occupies an area of 450 square metres. M. Paulin did triumph over his difficulties, and the pavilion of Venezuela cost only 51,000 francs.

If the Venezuela pavilion is elegant, fine and well studied, we cannot say as much for that of Chili — all of iron, with a filling of terra-cotta. This kind of construction is very interesting in itself (and M. Picq, the architect of Chili, has given us a very successful example of it in the Library Schoelcher, which ought to be set up at Porte de France), but demands for its use new forms appropriate to the material employed. Nothing is more shocking than to see iron employed in translating Classic forms, as in pediments and Ionic columns, for example. This is the case with the Chili pavilion, whose entrance is emphasized by a doorway decorated with a pediment, at each side of which is another smaller doorway. Above is a balcony at the height of the first floor, and the whole is framed by an upright *motif* decorated with Ionic columns, all of iron. The general effect is disagreeable, and is made more perceptible by a heavy and dull decoration. The interior consists of a large hall with a gallery, which forms the first story, and is covered by a central dome flanked with four small domes in the angles. On the lateral façades, two far-projecting balconies interrupt somewhat the monotony of the design. The whole construction is in plaster on lath, with sculpture in stucco.

To finish with the least successful pavilions, I will mention that of Bolivia, in a so-called Spanish Renaissance style. This building, whose architect is M. Fouquiau, consists in chief part of a large hall, frankly expressed in the façade by a heavy dome. In the angles of this hall, lighted by two large, circular bays, a staircase and two little rectangular rooms give excuse for four square towers about 30 metres high, surmounted with enormous balls decorated with ship's prows. The entrance is by a porch composed of three covered arcades, and these by three small cupolas, which ought to be golden, but are only dirty-colored. Evidently the *parti* was not a bad one, and study might have given a very successful result. The intention was a composition made interesting with domes and cupolas, and the courses, alternately red and yellow, could have had an effect of color and gaiety. Unfortunately, this result was not achieved. The *silhouette* is heavy and ill-studied, the *ensemble* is too squatty and overloaded. A decorated annex represents the entrance to the tunnel of Pulacayo, which, as a poster states, is building by the Huanchaca Company, of Bolivia, and measures 3,276 metres in length. This side of the Bolivian exhibition is appreciated by the public.

THE ILLUSTRATIONS

[Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

UNITED STATES POST-OFFICE AND COURT-HOUSE, BALTIMORE, MD. MR. JAMES G. HILL, SUPERVISING ARCHITECT.

[Gelatine Print, issued only with the Imperial Edition.]

For description see "Baltimore Letter," elsewhere in this issue.

COMPETITIVE DESIGN FOR THE CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK CITY. MR. L. S. BUFFINGTON, ARCHITECT, MINNEAPOLIS, MINN.

[Issued only with the Imperial Edition.]

A CAREFUL study of the diagrams and profiles forwarded has led to the general arrangement indicated by the block-plan.

The plan of the structure itself is based upon the Greek cross, and in general arrangements is not unlike a Byzantine cathedral of the first order; it seeming to be more profitable to employ that arrangement, as it admits of a richness of color-decoration in mosaic, marble, etc., which is impossible in the more intricate and less sturdy forms of the Gothic.

The fact that the only type of architecture which may be called distinctively American is that mingling of Provençal forms and Byzantine details known as Modern Romanesque, and as the general arrangement of the interior seems to demand it, your designer has accordingly adopted it.

The composition of the exterior, as will be seen by reference to the perspective, is generally that of a large central dome surrounded by twelve towers of varying heights, which, it is suggested, might be dedicated to the Twelve Apostles. The roofs of all towers will be of stone. The roofs of the nave, transepts, choir, apse, ambulatories and cloisters will be covered with golden-green and bluish-green glazed Spanish tiles, laid indiscriminately without regard to colors. The roof of the dome will be covered with Spanish tiles, which will be gilded before firing and glazed with a pale-brown glaze. The body of the exterior of the building will be of limestone or marble, as may be determined after an investigation of the various quarries, and of a color as near as may be to that of buff Ohio sandstone. The trimmings will be of a reddish-brown marble. The window-jambs, mouldings, string-courses, columns, roofs of towers, etc., will be tooth-chiselled; the balance of the exterior rock-faced.

All of the interior will be cased with marbles of great variety, in which will be placed mosaics of vitrified tile or glass.

The vestibule doors will be of brass and silver, having represented upon them in relief scenes from the building of the Temple and the Lives of the Apostles.

The hemispherical vault of the nave, choir and transepts, the four main arches under the dome and the pendentives of the dome will be filled with mosaics depicting Biblical scenes.

The dome of the lantern will be of burnished gold; the ceiling of the dome itself will be perforated with many pointed, star-shaped, colored, glazed openings for the passage of light. The body of the dome will be of dull-blue mosaic, with gold and silver stars. The piers of the dome will be decorated with mosaics of the prophets.

The ceiling of the sanctuary will be an elaborate pattern in gold, silver and bronze, in which will be worked the emblems of the four evangelists in various forms. The canopy over the high-altar will be of oxidized-silver, inlaid with copper and brass, and with *cloisonné* enamel emblems, resting on four columns of porphyry or onyx with alabaster caps and bases, and all surmounted by the Archangel Gabriel in alabaster.

The vestibules will derive their decorations from the Old Testament; the crossing and central dome from the Life of Christ; the transepts from the Lives of Christ and the Apostles; the choir from the Lives of Christ and the Apostles; the sanctuary is emblematic, with the exception of the windows, which are devoted to Christ and St. John the Divine. The ambulatory about the apse derives the substance of its decorations from the Book of Revelation.

COMPETITIVE DESIGN FOR THE CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK, N. Y.— MESSRS. RENWICK, ASPINWALL & RUSSELL ("*In te, Domine, Confido*"), ARCHITECTS, NEW YORK, N. Y.

[Issued only with the Imperial Edition.]

The style selected is Gothic, as the only style which has originated since the promulgation of our religion. The phase of style considered as most appropriate, because it is peculiarly English and pure, and, therefore, most suitable for an Episcopal Cathedral is the Late Decorated as exemplified in England in the naves of York and Beverley minsters, and in the choir of the Cathedral of Carlisle; this style with its charming flowing traceries is peculiarly English, and is pure, not like the last phase of Perpendicular style, which, from the

fact that the mullions are carried up perpendicularly against the arches, lost the feeling of the Gothic, and gradually begat the Tudor style. In addition to the cathedrals above-mentioned, there are very many beautiful parish churches in England, built in the Late Decorated style, and they are found in no other country.

The ground-plan is for a cruciform cathedral, with a central octagonal dome 100 feet in diameter. The dome was decided on for the following reason: In all Gothic cathedrals, except Ely, the central tower has to be supported by four great columns much larger, and projecting beyond the line of the columns supporting the clerestory. This arrangement cuts the perspective and narrows the building in the part where there should be certainly a width equal to that of the central aisles of the nave and choir, and thus obstructs the sight of the worshippers. In a cathedral 500 feet long this would be more felt than in one like York, which is 525 feet in length. The dome obviates this entirely, and, at the same time, affords an unobstructed space in the central part of the building near the sanctuary and pulpit, capable of seating 1,500, and with the nave and transepts, 3,000 to 4,000. In the Cathedral at Ely, the central dome has always been considered by all writers on architecture as the crowning triumph of Gothic architecture. Here, the dome springs from the same line as the arches of the nave and choir, and, if criticism may be allowed, it is perhaps a little low; on the other hand, those of St. Paul's, London, and St. Peter's, Rome, raised on high drums are too high, and dwarf the proportions of the central aisles. In the plan submitted, as the dome is 100 feet in diameter, while Ely is only 67 feet 6 inches in diameter, the spring of the dome has been raised to the height of the top of the anchors of the nave, and this will add both to the apparent size of the dome and make it an integral part of the cathedral. The exterior dome is raised above it sufficiently to make it, as it should be, the great central feature of the design, and is panelled on the outside, which will be a new feature in Gothic architecture, and by those who have seen the Arabian domes of Cairo, it will be understood how beautiful an effect this produces.

In the old cathedrals the side-aisles are of little use, and are, therefore, too wide. In the plan submitted, they are 15 feet wide, and the central nave is 50 feet in width. The side-aisles cannot be used for worshippers as the columns obstruct the view of the sanctuary, and they are made as narrow as proper proportion will allow; a width of 50 feet has been chosen as the best for the central nave, as it is known from observation in the cathedrals of Southern France, Bordeaux and Marseilles, that the immense size of the buttresses necessary to support the arches of a nave of greater width is a blemish, and destroys the unity of the design.

In the English cathedrals, except Norwich, Gloucester and Peterboro, the eastern termination is square and filled with one great window; this, however effective in buildings more than 500 feet long and with central aisles from 35 to 45 feet wide, would not be so in a building 400 feet long and with a central aisle of 50 feet; it would shorten the length of the building and dazzle the eyes of the worshippers. Therefore, the apsidal termination has been adopted, which will add to the perspective or length of the cathedral. The apsidal chapels of the great cathedrals of France, Germany and Italy, are one of their greatest beauties from the combination of light and shade made by the various buttresses and the facets or sides of the chapels. These have been added to the plans submitted, not as chapels, but as robing-rooms for the bishop, clergy and choir.

The material to be either granite or white marble, with brick for the backing and the interior to be lined with Caen stone.

It will be noticed that the two side-doors of the front in the towers are of different designs. This was done for the purpose of giving a choice to the Trustees, the intention being to have them both alike if the building is constructed.

COMPETITIVE DESIGN FOR THE CATHEDRAL CHURCH OF ST. JOHN THE DIVINE, NEW YORK, N. Y. — MESSRS. PARFITT BROS., ARCHITECTS, BROOKLYN, N. Y.

THE authors have sought to present a study from the Gothic architecture of the thirteenth and fourteenth centuries.

The height of the central tower is about 520 feet, while the front towers are a little higher than the recently completed spires of St. Patrick's Cathedral.

The plan conforms in all respects with the requirements of modern worship, yet having a breadth of treatment in the nave surpassing any other Gothic structure. In the north, east and west the windows are as numerous as possible, while from the south will be one huge rose window 60 feet in diameter, suggesting a rich jewelled treatment. The aim in the study of the entrances was to make them as rich and dignified as possible. The eastern porch is an adaptation of Chartres, while the motif of the main front is an adaptation from the numerous examples in the north of France, particularly Amiens. The arrangement of the vestries, choir-rooms and offices has been given special attention that the entry for the clergy and choir for services be dignified and convenient. Suggestions have been made for an assembly-hall and convention-house in the line of a treatment for a cathedral close with schools, residences and gateways. Special study has been given to prevent the interior discoloration and seeming decay from climatic influences, and for this purpose and also for heating, ventilating and carrying off roof-water, double walls, with concealed passages between, have been provided. The double walls necessitate double windows, the outer to be designed with heavy mullions and glazed with good ordinary lead-work, while the interior windows protected from harm may be designed with lighter mullions, and thus permit of a larger and broader treatment in colored-glass. For the interior, while relying on the grandeur of constructional lines, would be suggested a treatment of mosaics, and opportunities for memorials and monuments.

ALTERATION OF OLD BUILDINGS FOR OFFICE PURPOSES. — THE OLD CHAMBER OF COMMERCE A REMARKABLE INSTANCE. — THE REAL ESTATE BOARD BUILDING. — THE EVENING JOURNAL BUILDING. — THE WORLD'S FAIR MOVEMENT.

AT one time during the past year it looked as if the number of very large and heavy buildings was about to exceed the demand, but such does not seem to have been the opinion of investors, for not only is the amount of work of this character now as large as ever, but the extraordinary number of "repair jobs," if one may speak so disrespectfully, has been a feature of this year's work. So much have the modern buildings with their well-lighted corridors and offices, their rapid elevators and all modern improvements crowded out of the market the older class of structures that these owners have, at length, awakened, and the number of very extensive repairs and alterations in the business part of the city has been a constant subject of remark. Many of these dark and inconvenient "old vaults" have been converted at no small expense, however, into desirable office-buildings. As such work is ordinarily considered the most disagreeable and unsatisfactory that falls to an architect, it is interesting to note one or two of the solutions that have been given to these uninviting problems.

One of the very largest of the heavy office-buildings now under way, is a curious combination of both old and new work. This structure, which is now thirteen stories high, was the Chamber of Commerce Building, occupied until about six years ago by the Board of Trade, and its height was only about five stories of the present building. In order to erect the present construction (which is over 180 feet to the cornice) the advisability of entirely taking down the old structure was considered, and, after taking proposals in both ways, it was decided to allow it to remain. Accordingly, the building which is some 90 x 180 feet, was placed upon jack-screws and held in position, while the old foundations were taken out and replaced by entirely new ones. All the interior, as well as the roof of the old building, was then removed, and the interior space was laid out anew, both as to heights and general division of floor-space; the outer walls, of course, being all the time properly braced. Iron columns were placed where required: those on the outer walls being placed back of the piers of original building, and upon these the greater part of the superimposed weight is carried. The old stone piers have been cut down in width and new windows put in, so differently arranged that, as one looks at the structure, the only familiar thing is the entrance porch with its stone columns. The entire new portion of the building is a terra-cotta covering of the iron frame-work inside. Both the color and appearance of this terra-cotta is so similar to the stone that it is ordinarily taken for such, and certainly the effect is very harmonious. The idea of small piers and large openings has been carried out, following the general principles now so universally accepted here. At length the roof is on, and the general effect of the exterior is now obtainable: while of an extreme simplicity, with scarcely an ornament up to the cornice, it gives indication of making one of our most satisfactory large buildings. The structure has light upon the four sides, and in addition has in the centre an enormous light-court covered with a skylight, the effect and result of which is, however, not yet very evident.

Contractors have now been at the building for considerably over a year, and as far as superficial signs would show, all the work seems to have been done upon a principle very rarely accepted here of doing the work well and getting it finished as soon as consistent with such requirements, rather than upon the more generally practised idea of doing the work as quickly as possible, without too minute inquiry into how it is done, or how it is to appear ten years hence. The structure is, of course, absolutely fireproof, and will probably cost very close upon a million of dollars, and when entirely completed will be, by far, the most remarkable work of alteration ever done in the city.

Another building that has been completely overhauled is the one now known as the Real Estate Board Building, corner of Dearborn and Randolph Streets. Although the character of the work is by no means to be compared with the Chamber of Commerce Building above described, still it is an example of some six or eight similar

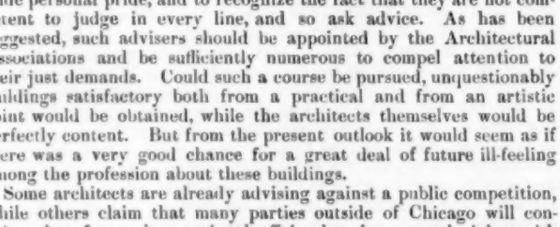
improvements that have been made, and is, in fact, more like the common every-day kind of alterations that are not particularly interesting or satisfactory. This building was first carried up two stories higher, with as light construction as possible, this being entirely covered with galvanized-iron. A large central light-shaft, or well, was then cut from roof to main floor, and in this are the stairs, elevators and the balconies or corridors, from which all the offices open. By making all the floors of these balconies, as well as the stairs, of glass and iron, an effective and satisfactory solution has been reached. This idea of a large well, with everything in it of glass and iron, has been largely adopted in several remodelled blocks as the most satisfactory method of treating old and dark buildings, and, as a general thing, is decidedly successful.

The building occupied by the *Evening Journal* has been considerably remodelled, especially the first story and the front, and in the course of the work a rather unusual problem was very cleverly solved. Originally this front was carried upon four points of support, but for the purpose of obtaining more light it was thought desirable to replace the two central ones, which were heavy stone piers, with a single iron column. The holding of the building up and the taking out of these piers was simple enough, but the difficulty was to prepare a foundation upon our compressible soil, which should not do as all our other foundations do — settle. This difficulty was, however, got over in the simplest manner by utilizing the foundations of the two old piers. At the level of the basement-floor heavy steel beams were run from one to the other, and the columns from above rested upon the centre of these beams, which were strongly bolted together; practically, the same weight as originally was thus carried again upon these two foundations, which had already settled with the rest of the building, and consequently no further movement was to be expected.

The World's Fair agitation is moving merrily along, and not the least doubt is here entertained of Chicago being the chosen city. Architects are so sure of this that, according to the common report, two offices are already working upon sketches, while four different parties are said to have made arrangements with the best architectural water-colorist in the city to do work for them upon their drawings. The committees are known to have been appointed and no site has been announced, so that all such work can hardly come under any other head than "wire-pulling" for future results. It is greatly to be hoped that when the committee on plans is appointed it will be composed of men of sufficient breadth of character to put aside personal pride, and to recognize the fact that they are not competent to judge in every line, and so ask advice. As has been suggested, such advisers should be appointed by the Architectural Associations and be sufficiently numerous to compel attention to their just demands. Could such a course be pursued, unquestionably buildings satisfactory both from a practical and from an artistic point would be obtained, while the architects themselves would be perfectly content. But from the present outlook it would seem as if there was a very good chance for a great deal of future ill-feeling among the profession about these buildings.

Some architects are already advising against a public competition, while others claim that many parties outside of Chicago will consider that, for such a national affair, they have equal rights with those living here. Also, the local architects who have subscribed to the fund will consider that they should, at least, have an invitation and a fair chance to show what they can do should they so wish, even if they have done no wire-pulling and have no personal friends upon the committee.

Were it possible, as in some of the older countries, to have a series of competitions properly conducted, that would unquestionably bring the best talent to the front both as to plans for the grounds and as to plans for the buildings, but with the competitions conducted as they ordinarily have been in the United States up to the present time, it would certainly be better to avoid them altogether.



THE POTTERY EXHIBITION OF THE PENNSYLVANIA MUSEUM AND SCHOOL OF INDUSTRIAL ART. — TERRA-COTTA AND STAINED-GLASS.

THE Pottery Exhibition held at Memorial Hall under the auspices of the Pennsylvania Museum and School of Industrial Art, while it has shown nothing particularly new in designs for pottery, has given proof of an enormous advance in both the design and manufacture of American stained-glass. The judges in this section are Messrs. T. P. Chandler, Jr., W. P. P. Longfellow, Frederick Crowninshield, Charles C. Haight and Charles M. Burns. Their report begins by deprecating the fact that so few designers and manufacturers are represented in a competitive exhibition where such liberal prizes are offered. In Class I, — figure-designs for ecclesiastical purposes, — the first prize goes to Mr. Francis Lathrop for his two figures of David and Jonathan, the second prize to the Tiffany Glass Company for its elaborate memorial window, a piece of splendid color, and the third to one of Mr. Maitland Armstrong's windows. In Class II, — figure or ornamental windows for domestic purposes, — Mr. Edwin Ford takes a gold medal for a billiard-room skylight, a wonderfully pleasing design in very pale tints, Mr. Armstrong a silver medal, and the Tiffany Glass Company a bronze medal. Mr. Alfred Godwin shows a square panel of an entirely new kind. The pattern is a Persian one — a simple, central feature surrounded by a very elaborate and delicate border. The material (except in some places, as the background of the central feature) is clear glass with a glaze of porcelain, very thin, on one face. The effect of this panel is most pleasing, and Mr. Godwin's invention has one strong point in its favor: it shows well with the light on the same side as the spectator, so that a window of this material will bear looking at from the inside of a room lighted in the evening, instead of having that most unfortunate repulsive appearance that opal and opalescent glass so often has under like conditions. The fascinating beauty that changing lights may give to glass of these later kinds is shown in one of the Tiffany Glass Company's windows, called "Victory." The window, as a whole, is not exactly a success; it tries too hard to be a picture. It is too broken and restless in design, and yet it contains superb bits of color — for instance, the gorgeous red of the flag on the left. The execution of this window shows some immensely ingenious devices in the way of leading, etc., but one of the most striking features is the use of the opalescent glass just spoken of. It is of this material that the robes of the three women in the foreground are made. The white of one is of a cool gravish tint. The others are also white, but tinged delicately, one with green and the other with salmon. The sweep of the garments is indicated with very little leading by choosing from a great many square yards of glass those pieces whose ridges and folds — one might almost say whose modelling — conforms most nearly to corresponding parts of the cartoon. This necessarily imperfect way of representing drapery is certainly not to be commended, but it is impossible not to admire some of the effects, although they may be much more the result of chance than of design.

A special prize of $200 was offered for the best cartoon for stained-glass. This was won by Mr. Lathrop. As for the public, which did not care whether the drawing was made so that the glass-worker could use it without alteration, or whether it was the work of a painter who did not take into account the exigencies of the material of which his finished design was to be made, it divided its admiration between a large cartoon of Mr. Will H. Low's and two admirably drawn figures — a crusader in armor and the little figure of a boy in mediæval dress — by Mr. Millet. The jury's report on this, the first representative exhibition of American stained-glass, is so thoughtful and so interesting that I may be pardoned for quoting from it at some length. It says: "On the whole, the exhibit has the merit of being distinctively American. It shows the novelty of material and method, the excellence of color and tone, the faults of design, that distinguish American work." And again: "To sum up: the judges have to notice as recognized qualities of American glass-work, fairly illustrated in the present exhibition, a strong feeling for color and the development in the best examples of great richness and brilliancy, or in another direction of great delicacy and refinement in the harmony of color. The invention and development of a new and legitimate style, which results from the employment of a new and characteristic material in opalescent and translucent glass, with or instead of the transparent glass, which has hitherto been used alone. And as accompanying tendencies which had to be restrained and guarded: A tendency to rely on mere splendor or beauty of material and upon tricks and *tours de force*, to the neglect of the higher qualities of design, of good ornamental form and of good drawing; a tendency among designers to use pictorial rather than decorative effects, to try to put into glass what properly belongs to mural painting, and even to easel painting, the result of unfamiliarity with their material and of the habit of conceiving their designs in pigment instead of transparent substances."

In the exhibition of terra-cotta only two firms are represented: the New York Architectural Terra-cotta Company, which takes the first prize for a general exhibit, and Messrs. Stephens, Leach & Conkling, of this city. The jury, Messrs. Russell Sturgis, John V. Sears and W. P. P. Longfellow, say, with much truth, that there is nothing in the exhibit "which differs in any respect from the work furnished daily to buildings in course of erection." In tile-work, the Low Art Tile Company has taken the first prize in every class in which it exhibits. The display of the Providential Tile Works includes some friezes of glazed tiles in high relief, suitable for outside decoration.

A very useful feature of this exhibition is the loan collection, containing, among other things that parallel the modern work shown, thirty or forty examples of old painted glass from churches and private houses of Germany and Switzerland. Next year, it is proposed to hold an exhibition of iron-work made in this country. A loan collection of old work of this sort would probably be of more use in connection with such an exhibition than even that of this year, for the amateurs of old iron-work are many, and a great deal of excellent locksmith and light iron-work of the Gothic and Renaissance periods can, no doubt, be collected for the purposes of comparative exhibition.

THE WAR, STATE AND NAVY DEPARTMENT. — THE NEW CONGRESSIONAL LIBRARY. — A SHORT ACCOUNT OF THE ARCHITECT'S TROUBLES, REMOVAL, AND THE STRANGE CLAIMS OF THE ENGINEER OFFICER IN CHARGE.

THE new State, War and Navy. Department Building was authorized March 3, 1871, and designed in the Supervising Architect's Office, when Mr. A. B. Mullet held that position. For a short time it was under Mr. Potter's charge. On March 3, 1875, it was turned over to the Engineer Department, United States Army, being under the supervision of General Babcock for a period of two years, when General Casey took charge and held possession until the building was completed. The building is not effectively designed, being a mass, without grouping, of small details. Each small window and post, and there are hundreds of them, are treated separately. The proper dignity and repose necessary for a large Government Building is lacking. Except among the profession and a few civilians General Casey is supposed to have been architect and superintendent.

Congressmen have recently mentioned this building as an example of the superior ability shown by the Engineering Department in supervising Government buildings. See, they say, the south wing, costing some $3,373,000, under the supervision of an architect, and the north wing, both identical, costing $1,914,000, under the superintendence of army engineers.

There were several good reasons for this great difference; it would never have occurred in a private architect's practice, or if the building had been in charge of a private architect. The fifteen per cent contracts, of which architects have heard so much, were modified just before the north wing was commenced. This one fact caused a difference of $900,000 in the labor on stonework. Wages were much higher in the first instance than in the latter. I have before me a comparative list of wages in 1876 and 1880:

	1876.	1880.
Bricklayer	$4.00	$2.00
Granite-setter	4.50	2 25
Carpenter	3.00	2.00
Hod-carriers	2.00	1.50

It can be seen that the principal labor on this work was double in 1876 to that in 1880. But this, of course, is not all; the patterns for stone, plaster, stucco, etc., necessary in the first instance, but not in the last, would be no inconsiderable item. Then machinery and other things which it was not necessary to buy twice, and which cost about $130,000. The transfer of a building from one department of the Government to another is not of as much interest or of as much importance to architects in a private practice, as is the discharge of a private architect, and filling his place with an army engineer.

This occurred in the Congressional Library. Mr. J. L. Smithmeyer won the Library in a competition about 1873. From that time to 1886 any and all had an opportunity to tilt at it, and it was necessary for him to hold it good against all comers. A second competition found him still victorious. During the thirteen years, any scheme submitted was considered by the Congressional Committees which have had the matter in hand. From time to time Mr. Smithmeyer made numerous variations of plan and many different designs for the Congressional Committees, and an extended trip to Europe to study the subject.

His original plan, with few modifications, was finally adopted, and he was appointed architect of the building, and took charge October 1, 1886. Few can comprehend what an architect has to contend with who has his country for his client, when Congress is acting as the agent. In the first place, the whole thing was put in charge of a Commission consisting of the Secretary of the Interior, Lamar; Mr. Spofford, Librarian; Mr. Clark, Architect of the Capitol. To this Commission was submitted all questions as to the use of material and the construction of the building, as well as the financial matters. The material, whether it should be brick, granite or marble, was not determined by Congress, but this Commission apparently had full power to dictate to, or hamper the architect in questions of design, construction and finance.

Everything went along with comparative smoothness until the materials were furnished for the concrete to be used in the foundation. Mr. Smithmeyer had drawn his specifications calling for cement with a tensile strength of 300 pounds to the square inch. Samples were sent with the bids which, when tested, came up to the quality specified.

The lowest bid was accepted. The first thing the contractor did was to send a different brand of cement from the sample which had been accepted. By order of the Commission this brand was tested and found wanting, then a second batch was forwarded, which had been found up to specifications when tested in sample, but was deficient when tested in fact. Another brand was forwarded, under similar circumstances, with similar results. The samples of cement were found to set very quickly, and were rejected by the architect as well on this score, as their lack of tensile strength. Mr. Smithmeyer had numerous tests made at the Washington, New York and Philadelphia public laboratories, the Massachusetts Institute of Technology, the Watertown Testing-station and the Washington Navy Yard.

The tests all show the quality below what the specifications called, not only in their minimum tests, but in their average strength. All make a special note as to the quickness with which they set, a large number of the samples setting in less than five minutes, some even in a half minute.

General Meigs is the only judge who claims that the cements are up to their proper strength, and he uses the rather extraordinary argument that the cement is as strong as the highest test shows it to be. He says: "I can report that 'Black Cross' cement has a tensile strength of 459 pounds to the square inch, much more than the specifications require. The 'K. B. S.' cement has a strength, as shown in the test-block No. 1, of 307 pounds per square inch. They are, in my judgment, excellent cements, quite good enough for the Library of Congress." These are the maximum breaking strains of the two varieties. His other tests show seven below 300 and two as low as 172 and 181. The General then proceeds to make quite a little argument as to the reason why the highest, and not the lowest, or even the average strength shown, should be taken as the true strength. He assumes that the officials at all the places in the country where they are in the habit of doing such testing daily were not expert in mixing, moulding and pulling, and if by chance (due probably to some peculiar method of mixing which could not be repeated for use in the building) one was highest, it showed the real strength of the cement.

He seems to forget the careless handling in making concrete, dirt and improper proportions, poor sand, and other faults which are more liable to creep in in practical work than in making briquettes. The poorest briquettes could well represent the poorest concrete.

After much importunity of contractors and their friends, the Commission determined to refer the matter to the army engineers, accepting any of the cements that they should choose to pass. The conscientious, painstaking architect was rebuffed by the appointment of one of General Casey's assistants at the War, State and Navy Department, to superintend the construction, Mr. Smithmeyer being still employed to furnish the plans. Cement, etc., was accepted from this time rapidly. Whether a higher grade was furnished or the standard of the specifications lowered I do not know. From this time it was apparently settled that Mr. Smithmeyer should be replaced by the Engineer Department. In a few months an attack was made on the architect in reference to the excessive cost, Congressmen claiming that it was understood the building was to cost only $3,000,000. How any estimate could have been made when it was undecided whether brick or stone should be used it would be hard to tell. But at this date the cry was: "It will cost from $6,000,000 to $10,000,000, according to finish." This was sufficient. The architect was discharged, and on October 2, 1888, the whole matter was put into the hands of the Chief Engineer, United States Army, and the architect found it necessary to sue for payment on his designs.

What had been done in similar cases, where the cry of extra cost was not assumed, but was true?

Was General Meigs replaced when the Pension Building cost three times the estimate? Was Major Lydecker discharged from the army when the tunnel more than doubled the estimate, and was, besides, a total failure? The first was retained for years while finishing the building, and at the same time was drawing his salary as a retired army officer. The other still retains his rank in the Engineer Corps, United States Army. The architect of the library, having given practically fifteen of his best years to the study and perfection of this problem, was ordered out without ceremony, and the engineer officer, who had never had the slightest sympathy or connection with it up to this time, and had never given it more than a casual thought, was put in charge.

The Commission was abolished. The engineer officer had, you might say, unlimited power conferred upon him by Congress. He had the power to alter plans, make new plans, change construction and business management; in fact, do anything he saw fit, provided he made the building cost within $4,000,000. There is no doubt but the architect who had studied the subject fifteen years could have modified the plans to come within the sum to greater advantage artistically as well as economically than the engineer, who had presumably never before given the subject a thought.

The point of interest now was: what changes would the engineer officer make in the plans and management?

He submitted two schemes to Congress. One was simply cutting a slice out between the centre and end pavilions of J. L. Smithmeyer's plan and pushing them nearer together, making the building 318′ x 333′, instead of 332′ 9″ x 463′ 11½″, as shown on the original plan. This set was, according to title in big black letters on each sheet, prepared under direction of Gen. Thom. Lincoln Casey, Chief of Engineers, United States Army.

After a careful comparison of this set with J. L. Smithmeyer's, I find only these differences: The front and rear made shorter by bringing the end pavilions nearer the centre; two small tower-roofs omitted on the corners of central pavilion; the necessary omissions

in plan to allow for the shorter front. Side elevations and sections east and west are identical; in fact, lithographed evidently from the same drawings. Still they are all prepared, according to the large, black type, "Under the direction of Gen. Thom. Lincoln Casey, Chief Engineer, United States Army." It might have been supposed that this was put on by some officious subaltern, but, in another place, on every sheet we find the following in the handwriting of the General himself:

Thos. Lincoln Casey,
Chief Engineer, U. S. A.,
In Charge.

Mr. Smithmeyer's name does not appear. Any one looking at these drawings, any one looking over these reports, would think that the General originated the scheme, or, at the least, had made some valued modifications of the Smithmeyer plan. Mr. Pelz, who has been employed by General Casey, and who has about the position of a head draughtsman, has modestly signed his name in one corner as architect. Now comes the strangest feature of this report. In the first case, General Casey's name had little, if any, right on the modified set. There can be no question that, in fairness, Smithmeyer's name as architect should have been placed on the original set. In the whole nine sheets it is omitted, or more probably erased, except where he had written it in among the shrubbery of the foreground of his perspective. Of course, any one looking at this report would immediately think that these designs and plans were also prepared under the directions of the Chief Engineer, United States Army. The architect's plan, to cost $6,000,000, was finally adopted by Congress.

But I have written enough. The profession, good architecture, and the people, who need education, and the Government, which needs artistic buildings, have more to fear from the encroachments of the Engineer Corps, United States Army, than they have from the improper organization of the supervising architect's office. And the American Institute of Architects would do well to bring its influence to bear, and try to stop such assignments of work.

THE PLAN OF NEW YORK.—THE MARQUAND AND WILLARD COLLECTIONS.

IF it could be determined just why New Yorkers are always in a hurry, and why they spend their days in a breathless chase, trying to snatch the time which seems always to have just escaped them, perhaps a remedy could be found and applied, which would in time make New York a most attractive place in which to live and work and learn.

We have many of the necessary elements for the attainment of the highest forms of enjoyment, but we have also many more obstacles between us and our enjoyment than other large cities have.

As far as my own experience goes the feeling of haste and the constantly obtruding consciousness of what one has not accomplished, is peculiar to New York rather than to its inhabitants. Away from his native city the New Yorker can find time enough to accomplish and to enjoy as much as any one whether of London, or of Paris, of Boston, or of Philadelphia.

One of the important factors in our unrest is our city, not its size, nor its shape, but the utter stupidity of its plan and the unfortunate distribution of its several functions, to apply that term to its places of residence, business, amusement and instruction.

An interesting competition could be made, by giving, as a basis, the map of Manhattan Island and the country within ten miles and calling for plans of a city of two millions of inhabitants with five hundred thousand in the suburbs. Confine the plans to the indications of the positions of the essential buildings for the government, commerce, education, amusement, supply and residence, etc., of the inhabitants. Lay out the main lines of railroad and water transportation, the water-supply and the main streets and avenues. The prize to be awarded to the plan which would, without sacrificing the park and breathing spaces, bring the average resident nearest to his government, his business and his amusements. I am sure that New York would resemble the successful plan in no one particular, but our future Haussmann might benefit by the comparison.

The fact that I received cards to three most interesting exhibitions, all for the same afternoon, and none of which I wished to miss, brought home to me with more than usual force, the terrible handicap imposed on us by the short-sightedness, indifference and greed of our ancestors, who gridironed our city, and of our contemporaries who are unwilling or unable to initiate any far-sighted policy for remedying this blunder and benefiting by our natural advantages.

To go from my office to the Metropolitan Museum, to the Union League Club, to the American Art Galleries and then home, in a central location, meant about eleven miles and a half of travel, two hours of time and twenty cents. As nearly as I can approximate the same could be done in Boston or Philadelphia, Paris or London with one-half the time and money, or less.

Not to dwell longer on the darker side of the undertaking, the things I was able to see fully repaid me for all the trouble of getting to see them.

I made passing mention last winter of the new gifts to the Metropolitan Museum, which are now arranged and thrown open to the public. The Marquand Collection of old masters, and pictures of the English School, is further enriched by three Rembrandts loaned by H. O. Havemeyer, the "Burgomaster van Beeresteyn" and his wife and the famous "Gilder." With excellent portraits in the collection by Masaccio, Velasquez, Hals, Rubens, Vandyck, Reynolds and Gainsborough, one has a most exceptional opportunity for comparing the different manners, but it is impossible here to say more than that the collection is of the very best, and so much more choice than the old masters in the other gallery (amongst the first acquisitions of the museum) that no comparison is possible.

Rembrandt's "Gilder" I must refer to again as it seems to me the best painting we possess on this side of the Atlantic, of finer quality if not more powerfully painted than the "Portrait of a Man," now at the Union League, and recently purchased by Mr. Ellsworth, of Chicago, from the Princess de Sagan. The collection of musical instruments given by Mrs. J. Crosby Brown is also open to the public now, but it is useless to try to give an idea even of the wealth of decorative motive it contains.

A small collection of wrought-iron work given by Mr. Marquand is also new. It occupies an alcove to the left as one enters the Museum, and is closed by a pair of exquisitely wrought gates, rococo in their design, but so true in the treatment of the material and so skilful in workmanship as to disarm the most rigid purist. There are about three hundred and fifty numbers in the collection and about double that number of pieces, mostly locks, hinge-plates, handles and keys of German or Swiss origin, I should judge, but there is as yet no catalogue, and the styles and periods of wrought-iron work are less distinctive than in most of the handicrafts. The collection compares favorably in quality if not in variety with those in Nuremberg and in Bâle.

The new collection of the greatest and most direct interest to the architect, however, is the Willard collection of architectural casts, the first instalment of which is now in place in the central hall of the museum.

It is impossible to know, as yet, the full scope of the collection, the portion now in place being only a half, or according to some a third of the whole, but one thing is evident at a glance; that the subjects have been admirably well chosen, not only for intrinsic value, but for their place in the historic development of sculptural art. No attempt has yet been made to catalogue or to put descriptive cards on the individual pieces, but the arrangement is chronological. Many of the casts are from subjects that have never been moulded before, and all are excellent in delicacy and faithfulness to the original.

As one enters the central hall, there are on the walls to the right a series of the large low-relief sculptures of Babylonian and Assyrian origin, then a few Egyptian casts. One comes next to a reproduction, at full-size of the Pandrosion, occupying the place of honor against the centre of the end wall, the simple base, the four lovely caryatides and the cornice, all exactly reproducing the present condition of the monument. The farther corner contains Roman and Greek work, several large capitals, exquisite altars and candelabra, a section of a very rich Roman order, and numerous panels and friezes, some of them well-known, others entirely new to me. Then comes the Romanesque, very well chosen and effectively arranged, one doorway in particular, one of the few pieces which is colored to suggest the stone. This leads me to say that I cannot but feel that it would be a great advantage to have all the casts colored. In carving stone or marble or wood, in a decorative spirit, the color and texture must play such an important part that one cannot too strenuously insist on their importance. To reproduce the marble, stone or wood in white plaster, whose strong reflected lights eat into all the hollows and tend to obliterate the surface treatment, is to run the risk of losing sight of the reasons which led to the use of a particular form of ornament or method of tooling, whilst in the original color and texture those reasons would remain obvious. This imitative coloring of plaster has been most successfully done in France, and could, no doubt, be done here, one needs only to bear in mind that the object to be attained is rather an unobtrusive suggestiveness, than a slavish and labored imitation. There are, right at hand in the Museum, antiques sufficiently varied to serve as models. To return to our survey of the collection, after the Romanesque and Byzantine comes the Gothic work, then turning another corner we come, on the end wall opposite the Pandrosion, to a charming choir-stall in the Transitional style that immediately preceded the Renaissance, then a copy of the carved wooden doors of the Church of St. Maclou, at Rouen, attributed to Jean Goujon. We are now around to the left of the entrance, which is devoted to the earlier Renaissance, with excellent examples of both Italian and French work.

In the centre of the hall stands the pulpit from the Baptistry, in Pisa, by Nicolo Pisano, and in the different parts of the hall, a little to one side, but still in relation to their respective chronological affiliations, stand a number of very interesting pieces; a section of the cloister arcade of St. John Lateran, at Rome, with mosaics

of the twisted columns and of the frieze, picked out in colors, the front of a German half-timbered house, about one-eighth of full-size, also in color to distinguish the different materials and reproduce the paintings, figures and heraldry. There is, also, a lovely Italian Renaissance front on a triangular base, and a figure of David, by Donatello; and running along the rail-way of the balcony, is the Parthenon frieze, though, whether this is full-size or not, was not easy to determine; in its surroundings it looks smaller.

The effect of the whole is extremely interesting and pleasing, and, aside from its interest and value professionally, it will, when completed, and with each piece properly ticketed, prove, surely, one of the most powerful educational forces of the Museum.

The committee, charged with the carrying into effect of the provisions of the Willard Trust, deserve the warmest thanks of the public, the profession and the Museum, for the zeal, knowledge and taste they have brought to the task.

The Union League Club continues the plan inaugurated last winter of having, besides the pictures shown at their monthly exhibitions, a loan collection of some particular kind of porcelain, or kindred handicraft. Last winter's exhibitions were of blue-and-white, of *sang de bœuf*, of jade, etc., and this season begins with a wonderful collection of *cloisonné* enamels, besides some rare porcelains and enamels. The paintings supplement the collections at the Museum with Teniers' "Five Senses" and the Rembrandt "Portrait of a Man," also known as "Dr. Tulp."

The Barye bronzes, exhibited at the American Art Galleries in connection with the much heralded "Angelus" of Millet, and a large and fine collection of the Fontainebleau School, are well worth seeing and studying, not only for Barye's modelling and composition, but also as giving an opportunity rarely to be enjoyed of studying the resources and triumphs of modern bronze casting and finishing. There are some gems in the way of bronze texture and coloring that are equal in their way to many of the Japanese. Barye, as an artist, seems to me at his best in his single figures of lions and tigers: he succeeds in these in giving one an impression of wonderful naturalism and subtle decorative quality combined, whilst the more complicated compositions seem to have excessive action and confused and ineffective composition.

The "Angelus" and the paintings of the Fontainebleau School I will not attempt to describe. There never before has been brought together in one collection such Corots, Daubignys, Rousseaus and many other of the great landscape painters, and it is nectar and ambrosia. The whole history of the acquisition of Millet's reverently simple masterpiece savors of our great and only Barnum, and although it may be construed as a tribute to the genius of Millet, I feel very sure it is not the manner of homage that would be tolerable to him if alive.

SOCIETIES

PHILADELPHIA T-SQUARE CLUB.

THE first regular meeting of the Philadelphia T-Square Club for the year was held at the office of Mr. Lindley Johnson, architect, 512 Walnut Street, Philadelphia, on Wednesday evening, November 6.

After the reading of the Treasurer's report the Club proceeded to the election of officers, with the following result: *President*, Louis C. Hickman; *Vice-President*, F. M. Day, architect; *Secretary and Treasurer*, G. C. Parmeter; *Executive Committee*, Walter Cope, architect, Amos J. Boyden, architect, Lindley Johnson, architect.

The following-named gentlemen were then elected to membership: H. B. Bancroft, Mr. Swarthmore, E. T. Boggs, A. Lacy, J. J. Bissiggar, J. Jameison, J. A. McArthur Harris, J. Barton Keen, W. J. Noland, E. H. Davis, thus increasing the total membership to 49.

The subject of the evening's competition was "A Drinking-Fountain in a Blank Wall." Drawings were contributed by Louis C. Hickman, W. J. Noland, J. J. Drell, A. C. Munoz, Percy Ash, Wilson Eyre, architect, Charles Brooke, Frank Hays and Frank Mead, architect. Mentions were awarded as follows: First place, Louis C. Hickman; second place, Wilson Eyre; third place, Frank Hays. The mentions, with about 27 other drawings, have been sent by the Executive Committee as club exhibits to the Cincinnati Exhibition.

Last year's prizes, amounting in all to about $70, were awarded to Mr. Arthur Truscott, Mr. Louis C. Hickman and Mr. Frank Hays, first, second and third place, respectively.

The Club prizes are paid in money, and will amount, this year, to $100 or more. The money will be raised by voluntary subscriptions from the members, augmented by a sum voted for the purpose from the general fund.

LOUIS C. HICKMAN, *President.*
G. C. PARMETER, *Secretary.*

ST. LOUIS ARCHITECTURAL LEAGUE.

THE first annual meeting of the League was held Saturday evening, November 9, at their rooms, 515 Olive Street, and, after electing officers, listened to some interesting speeches from invited guests.

There was a preliminary business meeting from six to eight o'clock, during which time the election of officers took place, resulting as follows: *President*, C. F. Longfellow; *Vice-President*, Gustave Wuest; *Treasurer*, J. L. Wees, re-elected; *Secretary*, L. H. Seubert, re-elected. Messrs. D. D. Kearns and M. P. McArdle, with the officers, are the *Executive Committee*. At 8 P. M. the rooms were thrown open for the reception of the friends of the League. Among the prominent gentlemen present were: Prof. Halsey C. Ives, of the Washington University, P. P. Furber, T. C. Link, C. E. Illsley and Charles K. Ramsey, Dr. John Green, Robert Bringhurst, the sculptor, and Holmes Smith, the artist.

L. C. Bulkley, retiring President, formally opened the meeting at 8.30, and spoke of the origin, objects and growth of the League, and what had been accomplished in the first year.

He was followed by Mr. P. P. Furber, C. E. Illsley, C. K. Ramsey and Prof. Halsey C. Ives, who gave a highly interesting review of the fine-art work connected with Washington University. He began by referring to the fact that his first work in St. Louis, seventeen years ago, was done in the room in which he was speaking.

Mr. Ives paid a handsome tribute to Mr. Wayman Crow, the founder of the Museum of Fine Arts. He dwelt on the advantages to be obtained in this institution by the younger members of the League, who were invited to avail themselves of the pictures, drawings and designs to be seen there, and concluded by offering to the members of the League the courtesies of the Academy and Museum at any time.

Mr. John Green and other prominent gentlemen followed, after which a splendid collation was spread.

Mr. P. P. Furber then announced the award of the first annual prize competition, the study being an entrance to a public park, which resulted in giving to L. H. Seubert first prize, Mr. C. F. Longfellow second prize; the judges being Messrs. P. P. Furber, T. C. Link and W. E. Eames. After a careful examination of the work done in the past year, the members were heartily congratulated on the grit and determination with which the younger members of the organization had stuck by the enterprise. The meeting was adjourned, to meet in two weeks, November 23.

PHILADELPHIA CHAPTER, A. I. A.

THE Philadelphia Chapter, American Institute of Architects, held a meeting on November 5, at 8 P. M., and elected the following officers: *President*, T. P. Chandler, Jr.; *First Vice-President*, George C. Mason, Jr.; *Second Vice-President*, Lindley Johnson; *Secretary*, Amos J. Boyden; *Treasurer*, Walter Cope; *Executive Committee*, Isaac Purcell, T. Roney Williamson.

COMMUNICATIONS

[*The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.*]

WALL-CHARTS FOR ARCHITECTURAL HISTORY.

CHICAGO, ILL., November 11, 1889.

TO THE EDITORS OF THE AMERICAN ARCHITECT:

Dear Sirs, — Please inform us if there is any series of wall-charts to illustrate "*History of Architecture.*"

Yours truly, J. H. TEWSBURY.

HUNT'S "SHADOW OF DEATH."

ITHACA, N. Y., November 14, 1889.

TO THE EDITORS OF THE AMERICAN ARCHITECT:

Dear Sirs, — Will you kindly inform me, if possible, what European gallery or collection contains Mr. Holman Hunt's "Shadow of Death," and greatly oblige, STUDENT.

[AFTER being exhibited in the chief cities of Europe and the United States by Messrs. Agnew, who had paid 10,000 guineas for it, this picture was presented by them to the City Art Gallery of Manchester, England, where it now is. — EDS. AMERICAN ARCHITECT.]

NOTES AND CLIPPINGS

COMPARATIVE COST OF WATER-POWER AND STEAM-POWER. — A very thorough examination into the relative cost of water-power and steam-power has been made by Chas. H. Manning, of Manchester, N. H., in a paper recently read before the American Society of Mechanical Engineers. The author takes the water-powers at Manchester, N. H., and at Lawrence and Lowell, Mass., as his standards for that side of the calculation, and for steam-power he takes the steam-engines used in the same towns for manufacturing purposes, where the cost of coal is $4.50

per ton. The conditions greatly favor the water-power side, although all these water-power privileges are permanently capitalized, and under the original leases paid $10.55 at Lawrence and $10.42 at Manchester per horse-power. Under recent leases their prices have been advanced at Lawrence to $14.08 per horse-power. After making elaborate calculations as to the practical additions and abatements required in putting both to use, the author sums up the cost in each case, and says: "In the water-power plant we paid $14 for the cost of the water, simply, per horse-power per annum; add to which $8.62 for attendance and supplies, we have a total cost for water-power of $22.62 per horse-power per annum." And taking for steam a low-pressure plant of 1,100 horse-power, with compound engines run on one and three-quarters pound of coal per horse-power, with coal at $4.50 per ton, the total cost for steam is given at $21.16 per horse-power per annum. "On a 1,000 horse-power plant the difference in cost saves an engineer's wages." We doubt not, says *Iron*, this decision in favor of the cheaper steam-power will surprise many who have supposed that the cities on the Merrimack had a great advantage over our Pennsylvania towns in the cheapness of water-power as compared with our coal. As coal is obtained for steam-power much below $4.50 per ton, it is evident that our advantages are much greater than those claimed for steam in Massachusetts. — *Scientific American.*

New Statues for the Pavillon de Rohan. — On the wall of that part of the Louvre known as the Pavillon de Rohan, and facing the Rue de Rivoli, standing in niches on each side of the gateway, are eight statues — Kleber, Hoche, Marceau, Desaix, Ney, Soult, Lannes and Massena. They were all instruments of the ambition of the first Napoleon, but they also distinguished themselves as soldiers of the Republic. They were not, however, the sole representatives of militant France at the end of the last century, although it might be supposed that they were selected on that account. It is now proposed to put forty-six additional statues in the niches of the same façade, and as peace hath her victories as well as war, there will be figures of men who never drew a sword, and women who were as ignorant of the tented field as any spinsters. Carnot, the organizer of victory, the President's grandfather, will have the honor which was hitherto denied to his memory. Bouchardon, the sculptor, who in 1752 was one of the tenants of the Louvre, is also to appear. Joan of Arc may fitly stand near the warriors, but it will be well to keep her apart from celebrities such as Madame de Sevigné and Madame de Staël. M Guillaume, the architect who has charge of the Louvre, asks permission of the Government to expend 200,000 francs on the new sculpture. It is to be hoped part of the money will be used for statues of some of the members of his own profession who were attached to the works-department of the Louvre. The names of the architects employed from the fifth to the thirteenth century are unknown, but from Robert de Luzarches and Pierre de Montereau to Louis Visconti there is a record of many great artists who deserve recognition. — *The Architect.*

The Cost of Baron Haussmann's Work in Paris. — The memoirs of Baron Haussmann, the man who, under Napoleon III, transformed Paris almost as completely as the Emperor Nero did ancient Rome, can hardly fail to attract attention among foreigners as well as Frenchmen, as the baron has things of much interest to tell us of the French capital and French society in the time of the empire. The expenditure necessitated by the transformation of the city had never been known with anything approaching to accuracy, and the baron, who should be the best possible authority on the subject, now informs us that the process of pulling down old Paris and building the new, cost no less a sum than 5,000,000,000 francs, which is just the amount of the indemnity paid by France to Germany at the close of the last war. Two hundred millions sterling appears a very heavy sum to pay for renovating a single city, and building critics would no doubt like to see the details of this vast outlay, which it is to be feared, the baron is hardly likely to give them in the forthcoming volumes. What the author has to tell his readers about Prince Bismarck and the negotiations after the war of 1870 to 1871 is not less interesting than the facts he promises us with reference to the rebuilding of the French capital. That the German statesman should have been disposed to enter into an alliance with France, and to give her the Rhine as a definite frontier, is, perhaps, possible; but it will be somewhat surprising if Baron Haussmann's statements on the subject, somewhat compromising as they seem to be to German diplomacy, are allowed to go unchallenged in Berlin. — *London Standard.*

A New Lumber Raft. — James B. Leary of New York, builder of the famous Joggins raft, was in St John, N. B., recently, and went through to the scene of his former operations, where he intends to construct another raft as soon as the snow will permit. He will send seventy-five men and some fifty teams in the woods and get out 60,000 sticks. One-half of these will go into the proposed raft. It will be built on the same patent as the others, but will be 100 feet longer than the Joggins raft, having a total length of 750 feet and a width of 45 feet. It will be 45 feet deep and will draw about 25 or 26 feet of water. It will consist of from 27,000 to 28,000 sticks, and will weigh 11,000 tons. It is intended to have six masts rigged, with fore-and-aft sails. The greatest improvements over the former raft will be in the steam steering gear and the steam capstan for the handling of anchors and chains, with which it is intended to equip this leviathan. Mr. Leary says it will be built entirely of piling and spars and will have about 1,000,000 feet of hard-wood for a core. The intention is to have the raft ready for launching in May. — *Exchange.*

Driven-Wells at Albany a Failure. — The determined and costly attempt which was made at Albany to obtain an adequate supply of water from driven-wells appears to have failed. The contractors guaranteed a supply of 15,000,000 gallons a day, but as yet from 390 driven-wells a supply of but about 6,000,000 gallons a day has been obtained. Professor Mason, of the Rensselaer Polytechnic Institute of Troy, in speaking of the subject recently, stated that Albany needed a supply of 20,000,000 gallons of water daily, and at the rate at which the wells are now yielding it would require about 1,200 wells to furnish this quantity. Professor Mason believes the Hudson River to be the only adequate source of supply upon which the city can depend, but says that the river-water should be thoroughly purified, and favors the adoption of a complete modern filter plant for this purpose. — *Fire and Water.*

Boston's Early Fire Laws. — Boston was probably the first town in America which adopted a fire district law. In Smith's Cyclopedia of Boston and its vicinity is quoted a description of the appearance of the city in 1687. Among other things the author says: "The town is almost wholly built of wooden houses; but since there have been some ravages by fire, building of wood is no longer allowed, so that at this present writing very handsome houses of brick are going up." It is noteworthy, by the way, that a very large part of the old houses of Boston which still stand have outside walls either wholly or in part constructed of brick. Brick and terra-cotta would seem to be by long odds the most reliable and lasting building materials which we have in use. — *Fire and Water.*

Cement on Wood. — Wood, says the *Bauzeitung*, which is to be coated with cement, should be rough, not smooth. The best coating is produced by the mixture of one part of cement, two parts of fine sand and one part of curdled milk. Not more should be made of the composition at the time than can be laid on in half-an-hour, and during its application it should be stirred continually, so that the sand does not settle. It is better, with the object in view, to apply two coatings, the second being the thicker. Such a coating adheres well to wood, and affords a good protection against rot, and even, to some extent, fire. Another method is to mix good fresh cement with curdled milk until attaining the thickness of oil paint, and then apply it to the wood. — *The Builder.*

TRADE SURVEYS

Financial and commercial managers are endeavoring to forecast probabilities for the next two years in order to reach conclusions that they can act upon at this time. This is a dangerous experiment: first, because conditions two years hence cannot be safely anticipated, and second, because entirely new factors and agencies are entering into the arena of business. It is only a few years ago that the wiseacres were saying with lamentations that the country's capacity in six months was equal to its consumptive-capacity for twelve months. Since then capacity has been fully doubled, and to-day manufacturing interests in several branches are working day and night, and straining every energy to keep buyers wants supplied. With the blowing-in of blast-furnaces now under construction, the capacity will be a trifle under ten million tons per year, and it is a question if even this will supply buyers. It is useless to attempt to estimate requirements for the future, and capitalists, investors, promotors and all others who are pointing their spy-glasses towards the future can see nothing whatever to guide them at present. Wheat, corn and cotton cultivation have received the strongest stimulus this year they ever received, and the cultivators of these products are all preparing to expand the areas devoted to each. It is this expansion, or rather the preparation for it, that underlies the existing activities in all Western and Southwestern States. Experts and advisers of large Eastern financial interests have quite recently about completed preliminary arrangements for the erection of an immense but unknown amount of manufacturing-capacity in these new sections. Much of this activity is hidden under the management of trust companies which have their modest headquarters in Northern cities. The new enterprises may be generally enumerated under cotton, coal, iron and lumber. Over one hundred new railroad-building schemes have taken root, and the territory to be affected extends from the South Atlantic coast to Texas and Colorado. This reigon of country at present invites capital more strongly than any other, excepting, perhaps, in the one direction of house-building. Builders and architects have recently stated that in house-building the greatest activity will be shown in the belt of States between Pennsylvania and Minnesota.

Records of construction, as far as tabulated this year, show generally an increase over last year of about fifteen per cent, although in a few localities this percentage is greatly exceeded. House-building in the southern belt of States will, no doubt, receive an impetus soon, but it will be through the enterprise of builders and investors, who are only awaiting the settling down to a substantial and enduring basis of the new industries of those States. Already, some so-called "syndicates" are looking up this field for investment. Labor in the South is unsettled, and regularity of employment has been against it, but every year brings conditions up more favorable for the operations of house-builders. The conditions are fast ripening for the construction of thirty or forty thousand houses in two or three hundred of the rising manufacturing towns of the Southern States. As a preliminary step, large purchases of the proper sites have already been made. Trade and industrial conditions are all favorable. Comparison of earnings of every kind justify large operations. Buyers are waiting for supplies, manufacturers are waiting for machinery, machinery-makers are waiting for their raw material, and many shippers of raw material are waiting for cars. The railroads are crowded with traffic. The shops have orders running along for two to four months. The older manufacturing centres are losing some trade through the competition of new centres, and old jobbing centres are surprised at the way new centres are rolling up their monthly and yearly figures. Atlanta, Kansas City, Fort Worth, Omaha, Duluth and other far-off points are planting deep and broad trade foundations. Meanwhile, land is appreciating in value, but, fortunately, slowly. The latest utterances of the labor leaders add to the uncertainty of such a unity of action next spring as will disorganize plans for the year. The vote taken in labor associations reveals something like a lukewarmness among the rank and file, much as some leaders would like to hide the fact. Employers have been granting advances quite freely this year. "Demands" have been quite generally complied with because trade conditions and margins have made compliance possible. This disposition to pay more when higher pay is possible has had its influence on employés. The antagonism that prevailed years ago does not exist to-day, and labor is showing more sense and more foresight.

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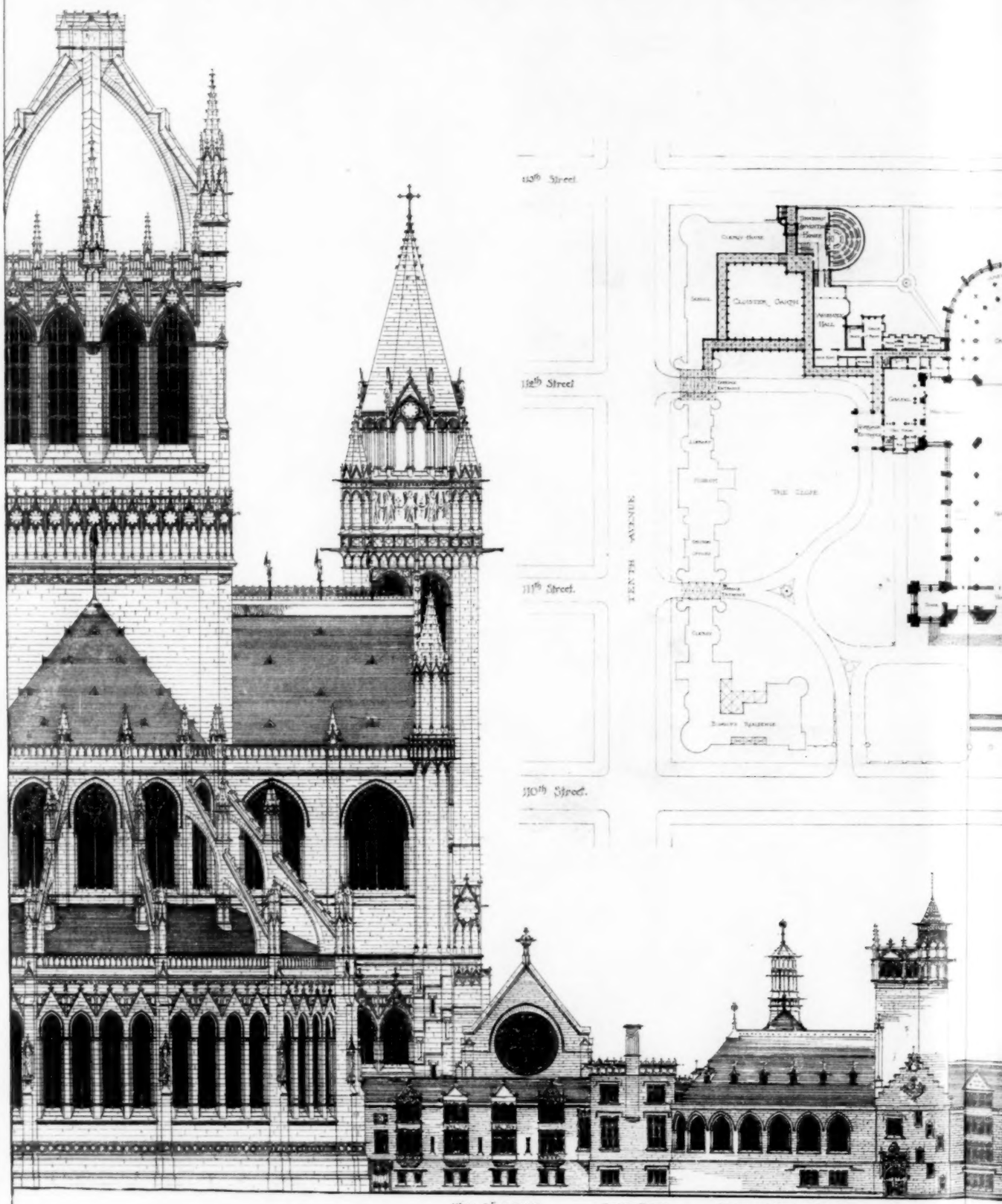

NORTH ELEVATION.

SCALE

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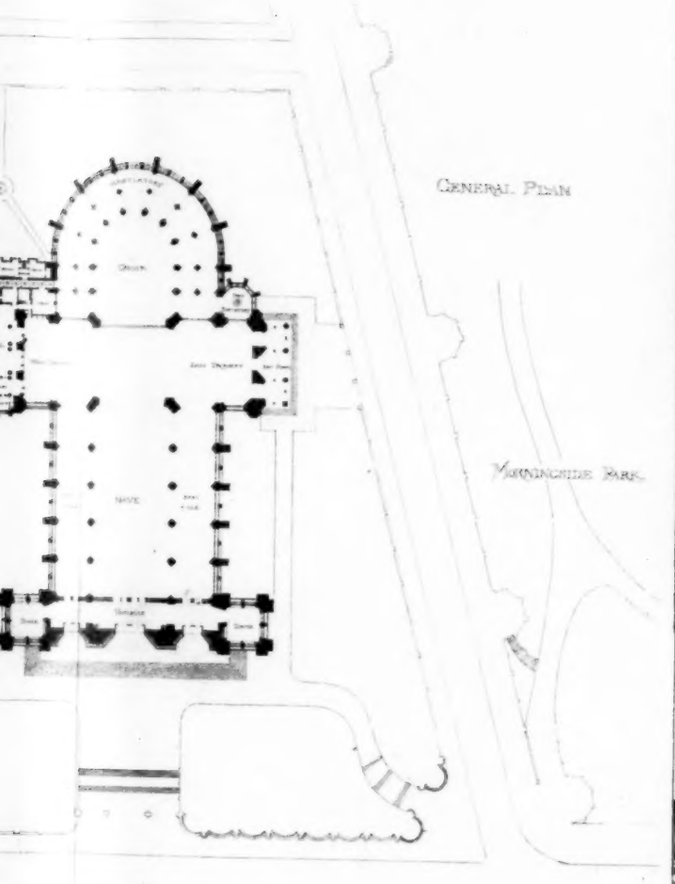
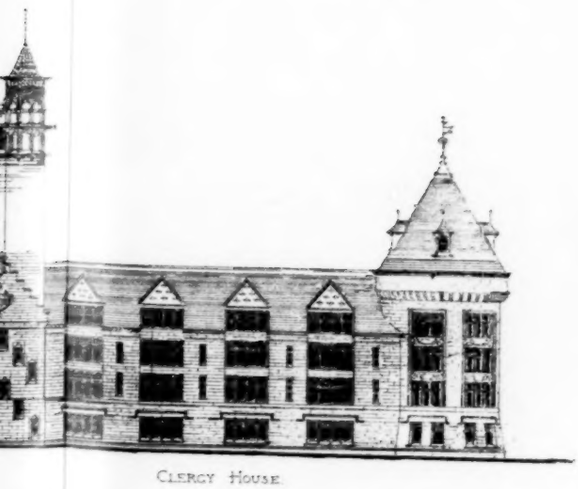
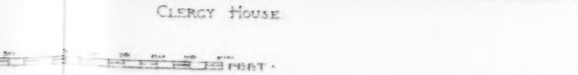


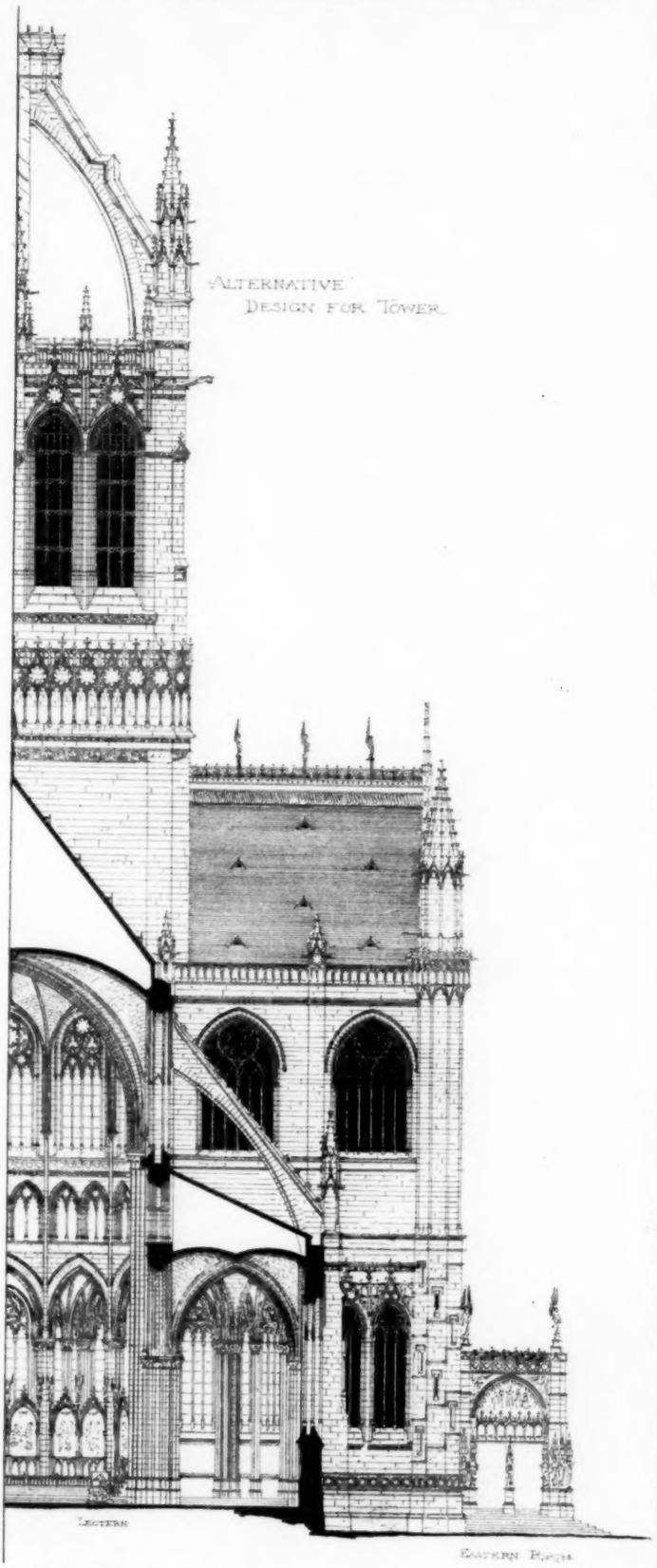
GENERAL PLAN



CLERGY HOUSE.



FEET



ALTERNATIVE DESIGN FOR TOWER.

LECTERN

EASTERN PORCH

TRANSVERSE SECTION.

LOOKING NORTH

NOTE. THE CROFT IS NOT SHOWN.

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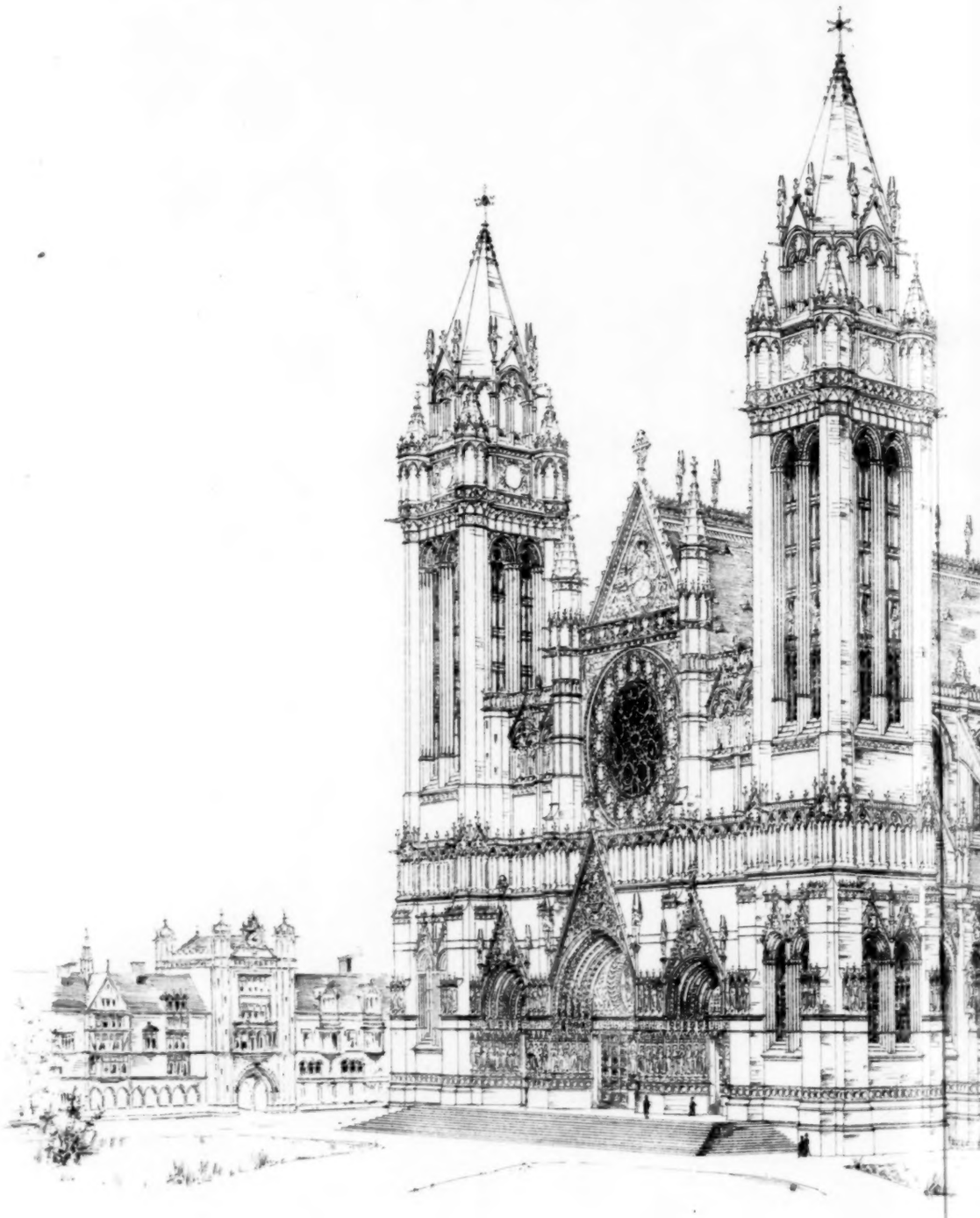

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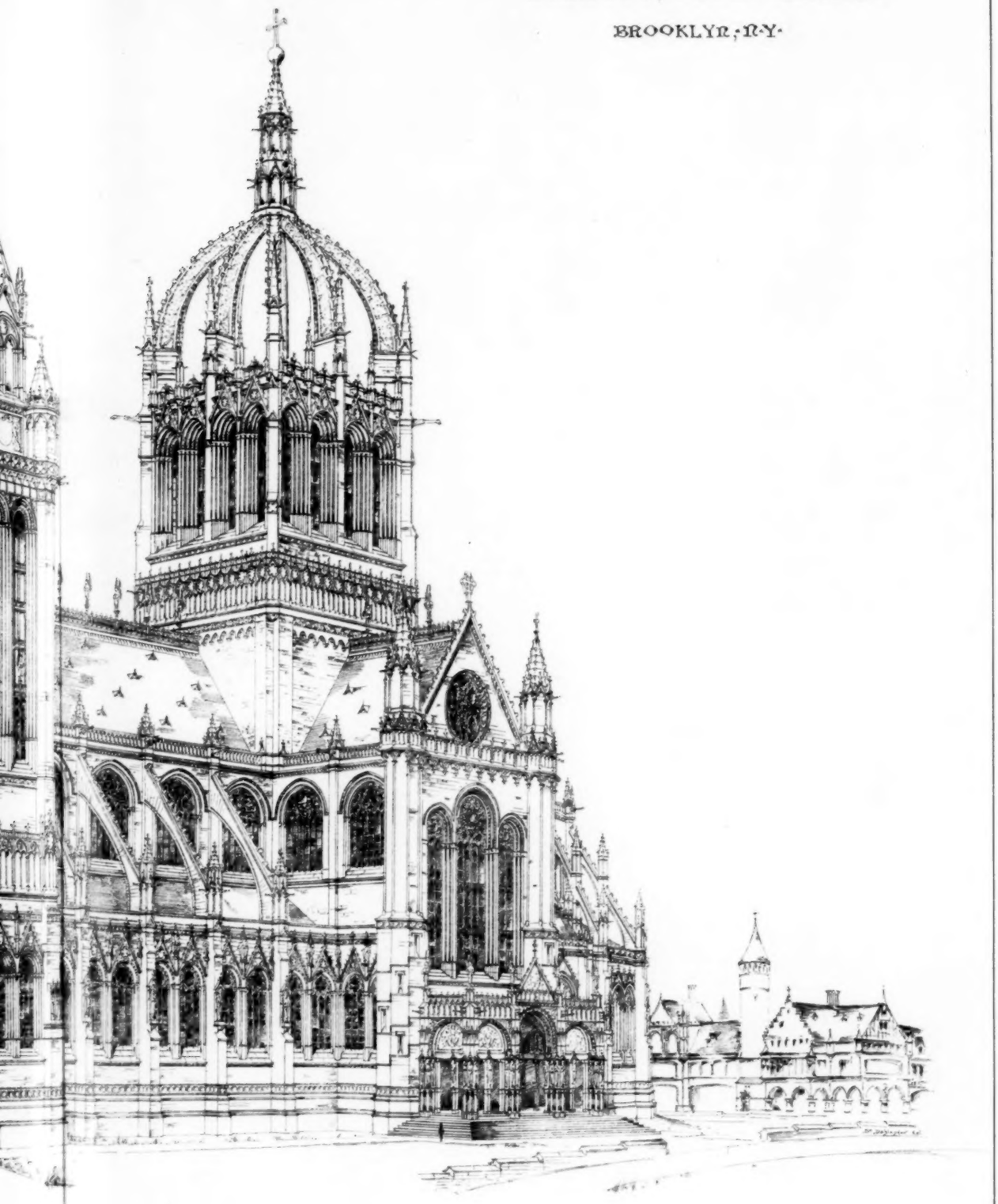

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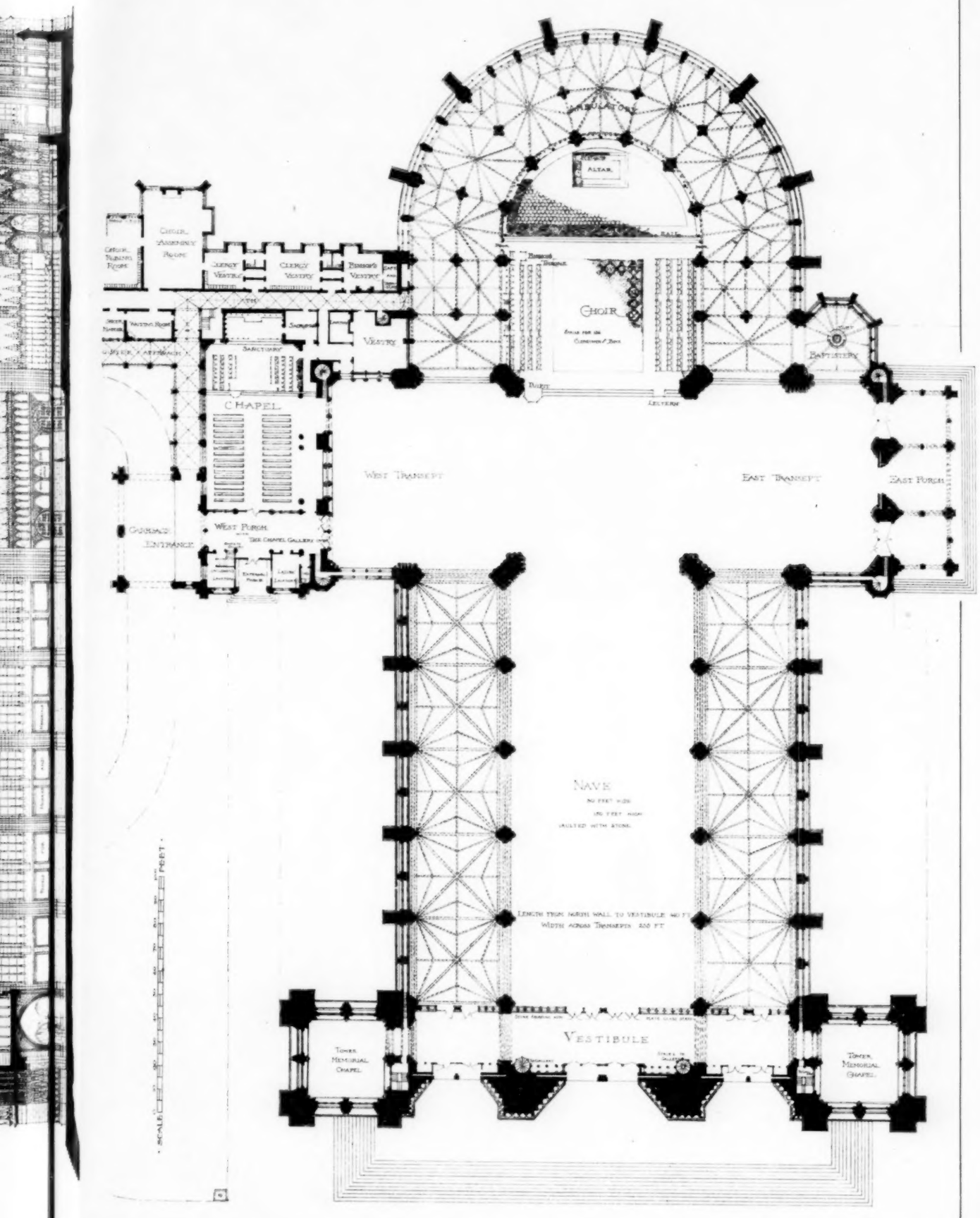
Competitive Design for the CATHEDRAL of

St John the Divine New York.

PARFITT, BROS. Architects,

BROOKLYN N.Y.


ALTAR
RAIL
CHOIR
CHOIR ASSEMBLY ROOM
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CLERGY VESTRY
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VESTRY
SANCTUARY
CHAPEL
BAPTISTERY
DAIS
LECTERN
WEST TRANSEPT
EAST TRANSEPT
EAST PORCH
WEST PORCH
CHOIR GALLERY
CHOIR ENTRANCE
NAVE
VESTIBULE
TOWER MEMORIAL CHAPEL
TOWER MEMORIAL CHAPEL
SCALE OF FEET